

CURRICULUM VITAE FOR IVAN B. DJORDJEVIC

CHRONOLOGY OF EDUCATION

Postdoctoral Institutions:

- University of Arizona, Tucson, USA, 12/2001-9/2002
- National Technical University of Athens, Athens, Greece, 4/2000-5/2001

8/1999	Ph.D.	Electrical Engineering University of Nis, Nis, Yugoslavia
2/1997	M.S.	Electrical Engineering University of Nis, Nis, Yugoslavia GPA: 10/10
11/1994	B.S.	Electrical Engineering University of Nis, Nis, Yugoslavia Graduated with highest distinction (the Best Student of the University Award) GPA: 9.65/10 Majored in Electronics and Telecommunications

CHRONOLOGY OF EMPLOYMENT

8/17 –Present	Professor (Tenured) Department of Electrical and Computer Engineering University of Arizona, Tucson, AZ Joint Appointment with College of Optical Sciences University of Arizona, Tucson, AZ
8/12 –8/17	Associate Professor (Tenured) Department of Electrical and Computer Engineering University of Arizona, Tucson, AZ Joint Appointment with College of Optical Sciences University of Arizona, Tucson, AZ
1/13-12/16	Guest/Visiting Professor & TU Fellow Technische Universität Darmstadt, Darmstadt, Germany
7/06 – 7/12	Assistant Professor Department of Electrical and Computer Engineering, College of Engineering Joint Appointment with College of Optical Sciences University of Arizona, Tucson, AZ
1/04 – 7/06	Research Assistant Professor Department of Electrical and Computer Engineering University of Arizona, Tucson, AZ
9/03 – 12/05	Senior Lecturer in Telecommunications Faculty of Computing, Engineering and Mathematical Sciences (now Bristol Institute of Technology) University of the West of England, Bristol, UK
9/02 – 9/03	Research Scientist Department of Electrical and Electronic Engineering University of Bristol Bristol, UK

12/01 – 9/02	Research Scientist Department of Electrical and Computer Engineering University of Arizona, Tucson, AZ
6/01 – 12/01	Senior Member of Technical Staff Tyco Telecommunications Eatontown, NJ, USA
4/00 – 5/01	Postdoctoral Fellow School of Electrical and Computer Engineering National Technical University of Athens, Athens, Greece
1/96 – 9/00	Telecommunication Equipment Specialist National Telecommunications Company Nis, Yugoslavia
11/94 – 1/96	Research/Teaching Assistant Faculty of Electronic Engineering University of Nis Nis, Yugoslavia

HONORS AND AWARDS

- OSA Fellow, Oct. 2016
- 1885 Society Distinguished Scholar Award, 2014
- NSF CAREER Award, NSF CCF, 2010
- Elected to Senior Member Grade, Institute of Electrical and Electronics Engineers (IEEE), January 2011
- The Best Paper in the field of Telecommunications Award and Telenor Award, ETRAN 2007
- The Best Student of the University Award, University of Nis, Nis, Yugoslavia, 1995
- The Highest GPA Student Award, University of Nis, Nis, Yugoslavia, 1995
- Serbian Ministry of Science and Technology, 1995
 - M.Sc. Scholarship
- Serbian Ministry of Education, 1991-1994
 - B.Sc. Scholarship

SERVICE/OUTREACH

National/International Outreach

- OSA Fellow, Oct. 2016-present
- Lead Guest Editor, IEEE Signal Processing Magazine, special issue on Advanced DSP and Coding for Multi-Tb/s-per-Channel Optical Transport (publication date: March 2014)
- Member of Editorial Board, IOP Journal of Optics
- Editor, IEEE Communications Letters
- Member of Editorial Board, Elsevier Physical Communication (PHYCOM) Journal
- Member of Editorial Board, Frequenz
- Member of Editorial Board, International Journal of Optics, Aug. 2008-Aug. 2017
- 2017 IWCMC Wireless Optical Networks Symposium (IWCMC 2017 WON Symposium), TPC Member
- CLEO 2012-2014 TPC Member
- IEEE Photonics Conference (previously known as the IEEE LEOS Annual Meeting) 2009- 2012
 - Optical Communications Committee Member
- ACP 2010, 2014, 2016 TPC Member
- OFC 2011-2013, Digital Transmission Systems Committee Member
- SPIE PhotonicsWest 2014-2016 TPC Member
- IEEE TELSIS 2013, 2015, 2017 TPC Member
- IEEE GLOBECOM 2013-2015 Workshop OWC TPC Member
- IEEE Senior Member, Jan. 2011-present
- IEEE Member, 2002-2010

- IEEE Photonics Society Senior Member
- IEEE ComSoc Senior Member
- IEEE Communications Society Technical Committee on Transmission, Access and Optical Systems (TAOS) (Member)
- IEEE ComSoc Signal Processing and Communications Electronics Technical Committee (Member)
- Journals and Conferences Reviewer:
 - IEEE Photonics Technology Letters
 - IEEE Communications Letters
 - IEEE Transactions on Communications
 - IEEE/OSA Journal of Lightwave Technology
 - IEEE Transactions on Information Theory
 - IEEE Transactions on Wireless Communications
 - IEEE/OSA Journal on Selected Topics in Quantum Electronics
 - IEEE Journal of Selected Areas in Communications
 - IEEE Transactions on Signal Processing
 - Quantum Information Processing
 - IET Optoelectronics
 - OSA Optics Letters
 - OSA Optics Express
 - IEEE Communications Magazine
 - IEEE Photonics Journal
 - IEEE Transactions on Aerospace and Electronic Systems
 - Opto-Electronics Review
 - Frontiers of Optoelectronics
 - Journal of Parallel and Distributed Computing
 - AEUE International Journal of Electronics and Communications
 - Applied Physics B - Lasers and Optics
 - Wireless Personal Communications
 - Optical Engineering
 - Journal of Zhejiang University Science C (Computers & Electronics)
 - FREQUENZ
 - China Communications
 - IEEE International Conference on Communications (ICC)
 - IEEE International Symposium on Information Theory (ISIT)
 - IEEE Global Communications Conference (Globecom)
 - Wireless and Optical Communications Conference (WOCC)
- External Examiner/Project Proposal Evaluator for:
 - Israel Science Foundation
 - European Research Council (ERC)
 - Serbian Ministry of Education, Science, and Technological Development
 - McMaster University, Canada
 - University of Melbourne, Australia
 - Gwangju Institute of Science and Technology, Gwangju, Korea

Courses Developed/Modernized

- Digital Communications Systems (ECE 435A/535A) (Course developed)
- Quantum information processing and quantum error correction (ECE 633) (Course developed)
- Advanced optical communication systems (ECE/OPTI632) (Course developed)
- Wireless communications (ECE638) (Course developed)
- Introduction to digital communications (ECE435) (Course modernized)
- Optical communication systems ECE/OPTI 430/530 (Course modernized)

New Academic Degree Program Development

- A member of the team that developed a new joint MS degree program of two Colleges (College of Optical Sciences and College of Engineering) entitled MS in Photonic Communications Engineering, which started in Spring 2011. The ECE/OPTI 430/530 (Optical Communications Systems), thought by Dr. Djordjevic at the time, is a core course for this program. The ECE/OPTI 632 (Advanced Optical Communications) and ECE 638 (Wireless Communications), two courses developed and thought by Dr. Djordjevic, are elective courses for this program.

Courses Taught

- ECE 638: Wireless Communications (Fall 2017, Fall 2015, Fall 2012, Fall 2010, Spring 2009)
- ECE 435A/535A Digital Communications Systems (Spring 2015, Spring 2014)
- ECE 633: Quantum Information Processing and Quantum Error Correction (Fall 2014, Fall 2011, Fall 2009)
- ECE 435: Introduction to Digital Communications (Fall 2011, Fall 2010, Fall 2009, Fall 2008, Fall 2004)
- ECE/OPTI 632: Advanced Optical Communication Systems (Spring 2012, Fall 2010, Fall 2007)
- ECE/OPTI 430/530: Optical Communication Systems (Spring 2010, Spring 2007, Fall 2006)
- ECE 429/529: Digital Signal Processing (Spring 2008)
- ECE 340: Engineering Systems Analysis (Spring 2012, Spring 2008)
- ECE 537: Digital Communications Systems II (2005, co-taught with Prof. Vasic)
- ECE 535: Digital Communications Systems I (2005, co-taught with Prof. Vasic)
- University of the West of England UFE004C2: Introduction to Communication Systems and Signals (two semesters' course: one semester on Signals & Systems, one semester on Communication Systems)
- University of the West of England UFE084H1: Electrical Interface (equivalent to Introduction to Electrical Engineering)

Current PhD Students

- Zhen Qu
- Xiaole Sun
- John Gariano
- Mingwei Yang
- Xiao Han
- Ziwen Pan

Minor advisor:

- Rahul Kumar Bhadani (OPTI minor advisor)
- Berk Akgun (ECE minor advisor)

Former PhD Students

- Ding Zou (Pure Storage)
- Changyu Lin (Infinera)
- Tao Liu (Infinera)
- Yequn Zhang (ClariPhy)
- Murat Arabaci (ViaSat, Juniper Networks)
- Hussam G. Batshon (Subcom Tyco)
- Lyubomir L. Minkov
- Milos Ivkovic (Cornell University, co-supervised with Professors Vasic and Gabitov)
- Jose Castro (Panduit, co-advise with Dr. David Geraghty)

Current MS Students:

- Sai Rakesh Mohan Krishna Vangapandu (OPTI student)
- Tyan-Lin Wang (OPTI student)

Former MS Students

- Mickey Rhoades (US Navy, USS FORD)
- Xiao Han (University of Arizona, Tucson, AZ)
- Di Xiao (Evus Technologies, Tucson, AZ)
- Aotuo Dong (University of New Mexico)
- Paul Genz (University of Arizona)
- Hatice Irem Demir (TU Darmstadt, Germany) (MS thesis completed during student's visit to Dr. Djordjevic's Lab in 2014)
- Alaa Saleh (TU Darmstadt, Germany) (MS thesis completed during Dr. Djordjevic's sabbatical in 2013)
- Ding Zou (University of Arizona)
- Tao Liu (University of Arizona)
- Mahesh Sharma (Qualcomm)

- Hussam G. Batshon (Subcom Tyco)
- Samita R. Pokhrel
- Anita Patil (co-advise with Dr. David Geraghty)
- Varsha S. Rao (Qualcomm, co-advise with Prof. Bane Vasic)

PUBLICATIONS

Books

- [B-1] I. B. Djordjevic, *Advanced Optical and Wireless Communications Systems*. Springer International Publishing, Switzerland, Dec. 2017.
- [B-2] I. B. Djordjevic, *Quantum Biological Information Theory*. Springer, Nov. 2015.
- [B-3] M. Cvijetic, I. B. Djordjevic, *Advanced Optical Communications and Networks*. Artech House, 2013.
- [B-4] I. B. Djordjevic, *Quantum Information Processing and Quantum Error Correction: An Engineering Approach*. Elsevier/Academic Press, 2012.
- [B-5] I. Djordjevic, W. Ryan, and B. Vasic, *Coding for Optical Channels*. Springer, 2010.
- [B-6] W. Shieh and I. Djordjevic, *OFDM for Optical Communications*. Elsevier, Oct. 2009.

Book Chapters

- [B-7] I. B. Djordjevic, "Advanced coding for fiber-optics communications systems," in *The Potential for Networks with Capacities Exceeding the Nonlinear Threshold*, (A. Ellis, Editor), Pan Stanford Publishing Pte. Ltd, UK, to appear in 2018.
- [B-8] I. B. Djordjevic, Z. Qu, "Coded Orbital Angular Momentum Modulation and Multiplexing Enabling Ultra-High-Speed Free-Space Optical Transmission," in *Optical Wireless Communications - An Emerging Technology*, (M. Uysal, C. Capsoni, Z. Ghassemlooy, A. Boucouvalas, E. G. Udvary, Editors), pp. 363-385, Springer, 2016.
- [B-9] I. B. Djordjevic, Z. Qu, "Coded Orbital-Angular-Momentum-Based Free-Space Optical Transmission," in *Wiley Encyclopedia of Electrical and Electronics Engineering*, Feb. 2016. (12 pages)
Available at: <http://onlinelibrary.wiley.com/doi/10.1002/047134608X.W8291/abstract>
- [B-10] I. B. Djordjevic, "Advanced coding for optical communication systems," in *Optical Fiber Telecommunications VI*, (I. Kaminow, T. Li and A. Willner, Editors), pp. 221-296, Elsevier/Academic Press, May 2013.
- [B-11] I. B. Djordjevic, "Coding and modulation techniques for optical wireless channels," in *Advanced Optical Wireless Communication Systems*, (S. Arnon, J. Barry, G. Karagiannidis, R. Schober and M. Uysal Eds.), Cambridge University Press, pages 11-53, May 2012.
- [B-12] I. B. Djordjevic, "Codes on graphs, coded modulation and compensation of nonlinear impairments by turbo equalization," in *Impact of Nonlinearities on Fiber Optic Communication*, (S. Kumar Ed.), Springer, pages 451-505, Mar. 2011.
- [B-13] I. B. Djordjevic, "Suppression of intrachannel nonlinearities in high-speed WDM systems," in *Advanced Technologies for High-Speed Optical Communications*, (L. Xu Ed.), pp. 247-277, Research Signpost, 2007.

Refereed Journal Papers

- [J-1] Z. Qu, I. B. Djordjevic, "Four-dimensionally multiplexed eight-state continuous-variable quantum key distribution over turbulent channels," *IEEE Photonics Journal*, vol. 9, no. 6, pp. 7600408-1–7600408-8, Dec. 2017.
[Available at: <http://ieeexplore.ieee.org/document/8119485/>]
- [J-2] Z. Qu, Y. Li, W. Mo, M. Yang, S. Zhu, D. Kilper, I. B. Djordjevic, "Performance optimization of PM-16QAM transmission system enabled by real-time self-adaptive coding," *Optics Letters*, vol. 42, no. 20, pp. 4211-4214, 2017.
[Available at: <https://www.osapublishing.org/ol/abstract.cfm?uri=ol-42-20-4211>]
- [J-3] I. B. Djordjevic, "Multidimensional OAM-based Secure High-Speed Wireless Communications," *IEEE Access*, vol. 5, pp. 16416-16428, September 6, 2017.
[Available at: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8002571&isnumber=6514899>]
- [J-4] Z. Qu and I. B. Djordjevic, "Two-stage Crosstalk Mitigation in an Orbital Angular Momentum-based Free-space Optical Communication System," *Optics Letters*, vo. 42, no. 16, pp. 3125-3128, 2017.
[Available at: <https://www.osapublishing.org/ol/abstract.cfm?uri=ol-42-16-3125>]
- [J-5] I. B. Djordjevic, "OAM-based Hybrid Free-Space Optical-Terahertz Multidimensional Coded Modulation and Physical-Layer Security," *IEEE Photonics Journal*, vol. 9, no. 4, pp. 7905712-1–7905712-12, Aug. 2017.
[Available at: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7972942&isnumber=7953746>]
- [J-6] Z. Qu and I. B. Djordjevic, "High-speed free-space optical continuous-variable quantum key distribution enabled by three-dimensional multiplexing," *Opt. Express*, vol. 25, no. 7, pp. 7919-7928, 2017.
[Available at: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-25-7-7919>]
- [J-7] D. Zou, C. Lin, I. B. Djordjevic, "FPGA-based LDPC-coded APSK for optical communication systems," *Optics Express*, vol. 25, no. 4, pp. 3133-3142, 20 Feb 2017.

- [Available at: <https://www.osapublishing.org/oe/fulltext.cfm?uri=oe-25-4-3133>]
- [J-8] J. Gariano, M. Neifeld, I. Djordjevic, "Engineering Trade Studies for a Quantum Key Distribution System over a 30 km Free-Space Maritime Channel," *Applied Optics*, vol. 56, no. 3, pp. 543-556, Jan. 20, 2017.
[Available at: <https://www.osapublishing.org/ao/abstract.cfm?uri=ao-56-3-543>]
- [J-9] S. Zhang, F. Yaman, Y.-K. Huang, J. D. Downie, D. Zou, W. A. Wood, A. Zakharian, R. Khrapko, S. Mishra, V. Nazarov, J. Hurley, I. B. Djordjevic, "Capacity-Approaching Transmission over 6375 km using Hybrid Quasi-Single-Mode Fiber Spans," *IEEE/OSA J. Lightw. Technol.*, vol. 35, no. 3, pp. 481-487, Feb. 1, 2017, doi: 10.1109/JLT.2016.2631151.
[Available at: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&number=7750572&isnumber=4357488>]
- [J-10] Z. Qu, I. B. Djordjevic, M. A. Neifeld, "RF-subcarrier-assisted Four-state Continuous-variable QKD Based on Coherent Detection," *Optics Letters*, vol. 41, no. 23, pp. 5507-5510, Dec. 1, 2016.
[Available at: <https://www.osapublishing.org/ol/abstract.cfm?uri=ol-41-23-5507>]
- [J-11] X. Sun, I. B. Djordjevic, M. A. Neifeld, "Multiple spatial modes based QKD over marine free-space optical channels in the presence of atmospheric turbulence," *Optics Express*, vol. 24, no. 24, pp. 27663-27673, 28 Nov 2016.
[Available at: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-24-24-27663>]
- [J-12] D. Zou, I. B. Djordjevic, "FPGA-based rate-adaptive LDPC-coded modulation for the next generation of optical communication systems," *Optics Express*, vol. 24, no. 18, pp. 21159-21166, 2016.
[Available at: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-24-18-21159>]
- [J-13] D. Zou, I. B. Djordjevic, "FPGA-based rate-compatible LDPC codes for the next generation of optical transmission systems," *IEEE Photonics Journal*, vol. 8, no. 5, pp. 7906008-1–7906008-8, Oct. 2016, DOI: [10.1109/JPHOT.2016.2602063](https://doi.org/10.1109/JPHOT.2016.2602063).
- [J-14] C. Lin, D. Zou, T. Liu, I. B. Djordjevic, "Capacity Achieving Nonbinary LDPC Coded Non-Uniform Shaping Modulation for Adaptive Optical Communications," *Optics Express*, vol. 24, no. 16, pp. 18095-18104, 2016.
[Available at: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-24-16-18095>]
- [J-15] Z. Qu, I. B. Djordjevic, "500Gb/s Free-Space Optical Transmission over Strong Atmospheric Turbulence Channels," *Optics Letters*, vol. 41, no. 14, pp. 3285-3288, July 15 2016.
[Available at: <https://www.osapublishing.org/ol/abstract.cfm?uri=ol-41-14-3285>]
- [J-16] T. Liu, C. Lin, I. B. Djordjevic, "Advanced GF(3²) nonbinary LDPC coded modulation with non-uniform 9-QAM outperforming star 8-QAM," *Optics Express*, vol. 24, no. 13, pp. 13866-13874, 2016.
[Available at: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-24-13-13866>]
- [J-17] X. Sun, I. B. Djordjevic, M. A. Neifeld, "Secret key rates and optimization of BB84 and decoy state protocols over time-varying free-space optical channels," *IEEE Photonics J.*, vol. 8, no. 3, pp. 7904713-1–7904713-13, June 2016, DOI: [10.1109/JPHOT.2016.2570000](https://doi.org/10.1109/JPHOT.2016.2570000).
- [J-18] T. Liu, I. B. Djordjevic, Z. Song, Y. Chen, R. Zhang, K. Zhang, W. Zhao, B. Li, "Broadband wavelength converters with flat-top responses based on cascaded second-harmonic generation and difference frequency generation in Bessel-chirped gratings," *Optics Express*, vol. 24, no. 10, pp. 10946-10955, 16 May 2016.
[Available at: <https://www.osapublishing.org/oe/abstract.cfm?uri=oe-24-10-10946>]
- [J-19] I. B. Djordjevic, "On Advanced FEC and Coded Modulation for Ultra-High-Speed Optical Transmission," *IEEE Communications Surveys and Tutorials*, vol. 18, no. 3, pp. 1920-1951, third quarter 2016, August 19, 2016, DOI: [10.1109/COMST.2016.2536726](https://doi.org/10.1109/COMST.2016.2536726).
- [J-20] I. B. Djordjevic, "Integrated optics modules based proposal for quantum information processing, teleportation, QKD, and quantum error correction employing photon angular momentum," *IEEE Photonics Journal*, vol. 8, no. 1, pp. 6600212-1–6600212-12, Feb. 2016, DOI: [10.1109/JPHOT.2016.2522097](https://doi.org/10.1109/JPHOT.2016.2522097).
- [J-21] X. Sun, I. B. Djordjevic, "Physical-layer security in orbital angular momentum multiplexing free-space optical communications," *IEEE Photonics Journal*, vol. 8, no. 1, pp. 01110-1–01110-10, Feb. 2016, DOI: [10.1109/JPHOT.2016.2519279](https://doi.org/10.1109/JPHOT.2016.2519279)].
- [J-22] Y. Ren, Z. Wang, P. Liao, L. Li, G. Xie, H. Huang, Z. Zhao, Y. Yan, N. Ahmed, A. Willner, M. P. J. Lavery, N. Ashrafi, S. Ashrafi, R. Bock, M. Tur, I. B. Djordjevic, M. A. Neifeld, and A. E. Willner, "Experimental characterization of a 400 Gbit/s orbital angular momentum multiplexed free-space optical link over 120 meters," *Optics Letters*, vol. 41, no. 3, pp. 622-625, February 1 2016.
[Available at: <https://www.osapublishing.org/ol/abstract.cfm?URI=ol-41-3-622>]
- [J-23] G. Tzimpragos, C. Kachris, I. B. Djordjevic, M. Cvijetic, D. Soudris, and I. Tomkos, "A Survey on FEC Codes for 100G and Beyond Optical Networks," *IEEE Communications Surveys and Tutorials*, vol. 18, no. 1, pp. 209-221, first quarter 2016. [DOI: [10.1109/COMST.2014.2361754](https://doi.org/10.1109/COMST.2014.2361754)]
- [J-24] I. B. Djordjevic, "Markov Chain-Like Quantum Biological Modeling of Mutations, Aging, and Evolution," *Life*, vol. 5, no. 3, pp. 1518-1538, 2015; doi:10.3390/life5031518.
[Available at: <http://www.mdpi.com/2075-1729/5/3/1518>]
- [J-25] Y. Zhang, I. B. Djordjevic, M. Neifeld, "Weak-Coherent-State-Based Time-Frequency Quantum Key Distribution," *Journal of Modern Optics*, DOI: 10.1080/09500340.2015.1075616, 18 Aug 2015. (9 pages)
[Available at: <http://dx.doi.org/10.1080/09500340.2015.1075616>]
- [J-26] T. Liu, I. B. Djordjevic, "Signal Constellation Design for Cross-Phase Modulation Dominated Channels," *IEEE Photonics Journal*, vol. 7, no. 4, Paper 0800108, Aug. 2015. (8 pages)

- [J-27] C. Lin, I. B. Djordjevic, D. Zou, "Achievable information rates calculation for optical OFDM transmission over few-mode fiber long-haul transmission systems," *Optics Express*, vol. 23, no. 13, pp. 16846-16856, 2015.
- [J-28] D. Zou, I. B. Djordjevic, "FPGA implementation of concatenated non-binary QC-LDPC codes for high-speed optical transport," *Optics Express*, vol. 23, no. 10, pp. 14501-14509, 18 May 2015.
- [J-29] I. B. Djordjevic, "Energy-efficient multinary signaling for ultra-high-speed optical transport," *SPIE Newsroom, Optoelectronics & Communications*, Paper 10.1117/2.1201502.005810, pp. 1-3, March 2015. [Available at: <http://spie.org/x112662.xml>]
- [J-30] I. B. Djordjevic, T. Liu, T. Wang, "Multinary Signaling based Coded Modulation for Ultra-High-Speed Optical Transport," *IEEE Photonics Journal*, vol. 7, no. 1, pp. 7900909-1 - 7900909-9, Feb. 2015.
- [J-31] T. Liu, I. B. Djordjevic, "Optimal Signal Constellation Design for Ultra-High-Speed Optical Transport in the Presence of Nonlinear Phase Noise," *Optics Express*, vol. 22, no. 26, pp. 32188-32198, 29 Dec 2014.
- [J-32] I. B. Djordjevic, A. Jovanovic, Z. H. Peric, T. Wang, "Multidimensional Optical Transport Based on Optimized Vector-Quantization-Inspired Signal Constellation Design," *IEEE Transactions on Communications*, vol. 62, no. 9, pp. 3262-3273, Sept. 2014.
- [J-33] I. B. Djordjevic, T. Wang, "Multiple component codes based generalized LDPC codes for high-speed optical transport," *Optics Express*, vol. 22, no. 14, pp. 16694-16705, 2014.
- [J-34] T. Liu, I. B. Djordjevic, "Multi-dimensional Optimal Signal Constellation Sets and Symbol Mappings for Block-Interleaved Coded-Modulation Enabling Ultra-High-Speed Optical Transport," *IEEE Photonics Journal*, vol. 6, no. 4, Paper 5500714, Aug. 2014. (14 pages)
- [J-35] C. Lin, I. B. Djordjevic, M. Cvijetic, and D. Zou, "Mode-Multiplexed Multi-Tb/s Superchannel Transmission with Advanced Multidimensional Signaling in the Presence of Fiber Nonlinearities," *IEEE Transactions on Communications*, vol. 62, no. 7, pp. 2507-2514, July 2014.
- [J-36] J. Zhang, I. B. Djordjevic, "Mapping Design of a Four-Dimensional 32-ary Signal Constellation over an AWGN Channel," *China Communications*, pp. 64-73, vol. 11, no. 7, July 2014.
- [J-37] I. B. Djordjevic, A. H. Saleh, F. Küppers, "Design of DPSS based fiber Bragg gratings and their application in all-optical encryption, OCDMA, optical steganography, and orthogonal-division multiplexing," *Optics Express*, vol. 22, no. 9, pp. 10882-10897, 5 May 2014.
- [J-38] A. Emsia, Q. T. Le, M. Malekizandi, D. Briggmann, I. B. Djordjevic, F. Kueppers, "WDM-TDM NG-PON Power Budget Extension by Utilizing SOA in the Remote Node," *IEEE Photonics Journal*, vol. 6, no. 2, Paper 7901310, Apr. 2014. (10 pages)
- [J-39] J. A. Anguita, J. Herreros, I. B. Djordjevic, "Coherent multi-mode OAM superpositions for multi-dimensional modulation," *IEEE Photonics Journal*, vol. 6, no. 2, Paper 7900811, Apr. 2014. (11 pages).
- [J-40] I. B. Djordjevic, M. Cvijetic, and C. Lin, "Multidimensional Signaling and Coding Enabling Multi-Tb/s Optical Transport and Networking," *IEEE Sig. Proc. Mag.*, vol. 31, no. 2, pp. 104-117, Mar. 2014.
- [J-41] I. B. Djordjevic, W. Shieh, X. Liu, M. Nazarathy, "Advanced Digital Signal Processing and Coding for Multi-Tb/s Optical Transport," *IEEE Sig. Proc. Mag.*, vol. 31, no. 2, pages 15 and 142, Mar. 2014. (From the Guest Editors.)
- [J-42] M.-F. Huang, A. Tanaka, E. Ip, Y.-K. Huang, D. Qian, Y. Zhang, S. Zhang, P. N. Ji, I. B. Djordjevic, T. Wang, Y. Aono, S. Murakami, T. Tajima, T. J. Xia, and G. A. Wellbrock, "Terabit/s Nyquist Superchannels in High Capacity Fiber Field Trials Using DP-16QAM and DP-8QAM Modulation for Regional and Long-Haul Applications," *IEEE/OSA J. Lightwave Technol.*, vol. 32, no. 4, pp. 776-782, Feb. 15, 2014.
- [J-43] J. He, R. A. Norwood, M. Brandt-Pearce, I. B. Djordjevic, M. Cvijetic, S. Subramaniam, R. Himmelhuber, C. Reynolds, P. Blanche, B. Lynn, N. Peyghambarian, "A survey on recent advances in optical communications," *Computers and Electrical Engineering*, vol. 40, no. 1, pp. 216-240, Jan. 2014.
- [J-44] I. B. Djordjevic, "Multidimensional QKD Based on Combined Orbital and Spin Angular Momenta of Photon," *IEEE Photonics Journal*, vol. 5, no. 6, Paper 7600112, Dec. 2013. (12 pages)
- [J-45] I. B. Djordjevic, "On the Irregular Nonbinary QC-LDPC-Coded Hybrid Multidimensional OSCD-Modulation Enabling Beyond 100 Tb/s Optical Transport," *IEEE/OSA J. Lightwave Technol.*, vol. 31, no. 16, pp. 2969-2975, Aug. 15, 2013.
- [J-46] I. B. Djordjevic, A. Jovanovic, M. Cvijetic, and Z. H. Peric, "Multidimensional Vector Quantization-based Signal Constellation Design Enabling beyond 1 Pb/s Serial Optical Transport Networks," *IEEE Photonics Journal*, vol. 5, no. 4, Paper 7901312, Aug. 2013. (12 pages)
- [J-47] D. Qian, M.-F. Huang, S. Zhang, Y. Zhang, Y.-K. Huang, F. Yaman, I. B. Djordjevic, and E. Mateo, "30Tb/s C- and L-bands bidirectional transmission over 10,181km with 121km span length," *Optics Express*, vol. 21, no. 12, pp. 14244-14250, 7 Jun 2013.
- [J-48] I. B. Djordjevic, T. Liu, and T. Wang, "On the adaptive software-defined LDPC-coded multidimensional spatial-MIMO multiband generalized OFDM enabling beyond 10 Tb/s optical transport," *IEEE Photonics Journal*, vol. 5, no. 1, Paper 7200207, Feb. 2013. (7 pages)
- [J-49] S. Zhang, Y. Zhang, M.-F. Huang, F. Yaman, E. Mateo, D. Qian, L. Xu, Y. Shao, and I. Djordjevic, "Transoceanic Transmission of 40x117.6 Gb/s PDM-OFDM-16QAM over Hybrid Large-Core/Ultra Low-Loss Fiber," *IEEE/OSA J. Lightwave Technol.*, vol. 31, no. 4, pp. 498-505, February 15, 2013. (Invited paper.)

- [J-50] C. Lin, I. B. Djordjevic, and M. Cvijetic, "Quantum Few-Mode Fiber Communications based on the Orbital Angular Momentum," *IEEE Photon. Technol. Lett.*, vol. 25, no. 1, pp. 3-6, January 1, 2013.
- [J-51] I. B. Djordjevic, "Quantum Biological Channel Modeling and Capacity Calculation," *Life*, vol. 2, no. 4, pp. 377-391, 2012.
- [J-52] C. Lin, I. B. Djordjevic, D. Zou, M. Arabaci and M. Cvijetic, "Non-binary LDPC coded mode-multiplexed coherent optical OFDM 1.28 Tbit/s 16-QAM signal transmission over 2000-km of few-mode fibers with mode dependent loss," *IEEE Photonics Journal*, vol. 4, no. 5, pp. 1922- 1929, Oct. 2012.
- [J-53] M. Arabaci, I. B. Djordjevic, L. Xu, and T. Wang, "Nonbinary LDPC-Coded Modulation for Rate-Adaptive Optical Fiber Communication without Bandwidth Expansion," *IEEE Photon. Technol. Lett.*, vol. 23, no. 18, pp. 1280-1282, Sept. 15, 2012.
- [J-54] I. B. Djordjevic, J. Anguita, and B. Vasic, "Error-Correction Coded Orbital-Angular-Momentum Modulation for FSO Channels Affected by Turbulence," *IEEE/OSA J. Lightw. Technol.*, vol. 30, no. 17, pp. 2846-2852, September 1, 2012.
- [J-55] G. T. Djordjevic, I. B. Djordjevic, and G. K. Karagiannidis, "Partially coherent EGC reception of uncoded and LDPC-coded signals over generalized fading channels," *Wireless Personal Communications*, vol. 66, no.1, pp. 25-39, 2012. (Url: <http://dx.doi.org/10.1007/s11277-011-0323-6>)
- [J-56] T. Liu and I. B. Djordjevic, "On the optimum signal constellation design for high-speed optical transport networks," *Opt. Express* vol. 20, no. 18, pp. 20396-20406, 27 August 2012.
- [J-57] I. B. Djordjevic, T. Liu, L. Xu, and T. Wang, "On the Multidimensional Signal Constellation Design for Few-Mode Fiber based High-Speed Optical Transmission," *IEEE Photonics Journal*, vol. 4, no. 5, pp. 1325 - 1332, 2012.
- [J-58] Y. Zhang, I. B. Djordjevic, and X. Gao, "On the quantum channel capacity for orbital angular momentum (OAM) based free-space optical communications," *Optics Letters*, vol. 37, no. 15, pp. 3267-3269, August 1, 2012.
- [J-59] I. B. Djordjevic, "Spatial-Domain-Based Hybrid Multidimensional Coded-Modulation Schemes Enabling Multi-Tb/s Optical Transport," *IEEE/OSA J. Lightw. Technol.*, vol. 30, no. 14, pp. 2315-2328, July 15, 2012. **(Invited Paper.)**
- [J-60] M. Arabaci, I. B. Djordjevic, L. Xu, and T. Wang, "Nonbinary LDPC-Coded Modulation for High-Speed Optical Fiber Communication without Bandwidth Expansion," *IEEE Photonics Journal*, vol. 4, no. 3, pp. 728-734, June 2012.
- [J-61] Y. Zhang, M. Arabaci, I. B. Djordjevic, "Evaluation of four-dimensional nonbinary LDPC-coded modulation for next-generation long-haul optical transport networks," *Optics Express*, vol. 20, no. 8, pp. 9296-9301, 04/09/2012.
- [J-62] M. Cvijetic, I. B. Djordjevic, N. Cvijetic, "Dynamic Multidimensional Optical Networking Based on Spatial and Spectral Processing," *Optics Express*, vol. 20, no. 8, pp. 9144-9150, 04/09/2012.
- [J-63] I. B. Djordjevic, L. Xu, and T. Wang, "Statistical physics inspired energy-efficient coded-modulation for optical communications," *Optics Letters*, vol. 37, no. 8, pp. 1340-1342, 04/15/2012.
- [J-64] H. Hemmati, A. Biswas, and I. B. Djordjevic, "Deep-space optical communications: future perspectives and applications," *Proceedings of the IEEE*, vol. 99, no. 11, pp. 2020-2039, Nov. 2011. **(Invited Paper.)**
- [J-65] S. Zhang, M. Arabaci, F. Yaman, I. B. Djordjevic, L. Xu, T. Wang, Y. Inada, T. Ogata, and Y. Aoki, "Experimental demonstration of non-binary LDPC coded modulation for ultra-long-haul transmission systems," *Optics Express*, vol. 19, no. 20, pp. 19042-19049, Sept. 2011.
- [J-66] I. B. Djordjevic, "Multidimensional pulse-position coded-modulation for deep-space optical communication," *IEEE Photon. Technol. Lett.*, vol. 23, no. 18, pp. 1355-1357, September 15, 2011.
- [J-67] M. Arabaci, I. B. Djordjevic, L. Xu, and T. Wang, "Four-dimensional nonbinary LDPC-coded modulation schemes for ultra high-speed optical fiber communication," *IEEE Photon. Technol. Lett.*, vol. 23, no. 18, pp. 1280-1282, Sept. 15, 2011.
- [J-68] I. B. Djordjevic, L. Xu, and T. Wang, "Multidimensional Hybrid Modulations for Ultra-High-Speed Optical Transport," *IEEE Photonics Journal*, vol. 3, no. 6, pp. 1030 - 1038, 2011.
- [J-69] I. B. Djordjevic, "Energy-efficient spatial-domain-based hybrid multidimensional coded-modulations enabling multi-Tb/s optical transport," *Optics Express*, vol. 19, no. 17, pp. 16708-16714, 08/15/2011.
- [J-70] I. B. Djordjevic, "Cavity quantum electrodynamics (CQED) based quantum LDPC encoders and decoders," *IEEE Photonics Journal*, vol. 3, no. 4, pp. 727 - 738, Aug. 2011.
- [J-71] I. B. Djordjevic, "Deep-space and near-Earth optical communications by coded orbital angular momentum (OAM) modulation," *Optics Express*, vol. 19, no. 15, pp. 14277-14289, 07/18/2011.
- [J-72] I. B. Djordjevic, "Heterogeneous transparent optical networking based on coded OAM modulation," *IEEE Photonics Journal*, vol. 3, no. 3, pp. 531-537, June 2011.
- [J-73] I. B. Djordjevic, M. Arabaci, L. Xu, and T. Wang, "Generalized OFDM (GOFDM) for ultra-high-speed optical transmission," *Optics Express*, vol. 19, no. 7, pp. 6969-6979, 03/28/2011.
- [J-74] I. B. Djordjevic, M. Arabaci, L. Xu, and T. Wang, "Spatial-domain-based multidimensional modulation for multi-Tb/s serial optical transmission," *Opt. Express*, vol. 19, no. 7, 03/28/2011.
- [J-75] I. Djordjevic, H. G. Batshon, L. Xu, and T. Wang, "Four-dimensional optical multiband-OFDM for beyond 1.4 Tb/s serial optical transmission," *Opt. Express*, vol. 19, no. 2, pp. 876-882, 01/17/2011.
- [J-76] I. B. Djordjevic, L. Xu, and T. Wang, "Reverse concatenated coded modulation for high-speed optical communication," *IEEE Photonics Journal*, vol. 2, no. 6, pp. 1034-1039, Dec. 2010.

- [J-77] I. B. Djordjevic, M. Arabaci, "LDPC-coded orbital angular momentum (OAM) modulation for free-space optical communication," *Opt. Express*, vol. 18, no. 24, pp. 24722-24728, 11/22/2010.
- [J-78] I. B. Djordjevic, L. Xu, and T. Wang, "On the reduced-complexity of LDPC decoders for ultra-high-speed optical transmission," *Opt. Express*, vol. 18, no. 22, pp. 23371- 23377, 25 October 2010.
- [J-79] I. B. Djordjevic, "Photonic Implementation of Quantum Relay and Encoders/Decoders for Sparse-Graph Quantum Codes Based on Optical Hybrid," *IEEE Photon. Technol. Lett.*, vol. 22, no. 19, pp. 1449-1451, October 1, 2010.
- [J-80] H. G. Batshon, I. B. Djordjevic, T. Schmidt, "Ultra high speed optical transmission using subcarrier-multiplexed four-dimensional LDPC-coded modulation," *Optics Express*, vol. 18, no. 19, pp. 20546-20551, 13 September 2010.
- [J-81] I. B. Djordjevic, and H. G. Batshon, "LDPC-Coded OFDM for Heterogeneous Access Optical Networks," *IEEE Photonics Journal*, vol. 2, no. 4, pp. 611 - 619, Aug. 2010.
- [J-82] H. G. Batshon, I. B. Djordjevic, L. Xu, and T. Wang, "Iterative Polar Quantization based Modulation to Achieve Channel Capacity in Ultra-High-Speed Optical Communication Systems," *IEEE Photon. Journal*, vol. 2, no. 4, pp. 593 - 599, Aug. 2010.
- [J-83] H. G. Batshon, I. B. Djordjevic, L. Xu, and T. Wang, "Modified Hybrid Subcarrier/Amplitude/Phase/Polarization LDPC-Coded Modulation for 400 Gb/s Optical Transmission and Beyond," *Optics Express*, vol. 18, no. 13, pp. 14108-14113, 21 June 2010.
- [J-84] I. B. Djordjevic, "Adaptive modulation and coding for free-space optical channels," *IEEE/OSA J. Opt. Commun. Netw.*, vol. 2, no. 5, pp. 221-229, May 2010.
- [J-85] I. B. Djordjevic, "Photonic entanglement-assisted quantum low-density parity-check encoders and decoders," *Opt. Lett.*, vol. 35, no. 9, pp. 1464-1466, May 1, 2010.
- [J-86] I. B. Djordjevic, "On the photonic implementation of universal quantum gates, Bell states preparation circuit and quantum LDPC encoders and decoders based on directional couplers and HNLf," *Opt. Express*, vol. 18, no. 8, pp. 8115- 8122, 1 April 2010.
- [J-87] I. B. Djordjevic, "On the photonic implementation of universal quantum gates, Bell states preparation circuit, quantum relay and quantum LDPC encoders and decoders," *IEEE Photon. J.*, vol. 2, no. 1, pp. 81-91, Feb. 2010.
- [J-88] M. Arabaci, I. B. Djordjevic, R. Saunders, and R. M. Marcocchia, "Non-binary Quasi-Cyclic LDPC Based Coded Modulation for Beyond 100 Gb/s Transmission," *IEEE Photon. Technol. Lett.*, vol. 22, no. 6, pp. 434 - 436, March 15, 2010.
- [J-89] M. Arabaci, I. B. Djordjevic, R. Saunders, and R. M. Marcocchia, "Polarization-multiplexed rate-adaptive non-binary-LDPC-coded multilevel modulation with coherent detection for optical transport networks," *Opt. Express*, vol. 18, no. 3, pp. 1820-1832, 2010.
- [J-90] H. G. Batshon, and I. B. Djordjevic, "Beyond 240 Gb/s per Wavelength Optical Transmission Using Coded Hybrid Subcarrier/Amplitude/Phase/Polarization Modulation," *IEEE Photon. Technol. Lett.*, vol. 22, no. 5, pp. 299-301, March 1, 2010.
- [J-91] I. B. Djordjevic, "Coded-OFDM in hybrid optical networks," *IET Optoelectronics*, vol. 4, no. 1, pp. 17 - 28, Feb. 2010.
- [J-92] L. L. Minkov, I. B. Djordjevic, L. Xu, and T. Wang, "PMD Compensation in Polarization Multiplexed Multilevel Modulations by Turbo Equalization," *IEEE Photon. Technol. Lett.*, vol. 21, no. 23, pp. 1773-1775, December 1, 2009.
- [J-93] M. Arabaci, I. B. Djordjevic, R. Saunders, and R. M. Marcocchia, "High-Rate Non-binary Regular Quasi-Cyclic LDPC Codes for Optical Communications," *IEEE/OSA J. Lightw. Technol.*; vol. 27, no. 23, pp. 5261-5267, December 1, 2009.
- [J-94] I. B. Djordjevic, L. L. Minkov, L. Xu and T. Wang, "Suppression of fiber nonlinearities and PMD in coded-modulation schemes with coherent detection by using turbo equalization," *IEEE/OSA J. Opt. Commun. Netw.*, vol. 1, no. 6, pp. 555-564, Nov. 2009.
- [J-95] G. T. Djordjevic, I. B. Djordjevic, P. N. Ivanis, "Effects of LDPC Code on the BER Performance of MPSK System with Imperfect Receiver Components over Rician Channels," *ETRI Journal*, vol. 31, no. 5, pp. 619-621, Oct. 2009.
- [J-96] I. B. Djordjevic, and G. T. Djordjevic, "On the communication over strong atmospheric turbulence channels by adaptive modulation and coding," *Optics Express*, vol. 17, no. 20, pp. 18250-18262, September 25, 2009.
- [J-97] I. B. Djordjevic, M. Arabaci, and L. Minkov, "Next Generation FEC for High-Capacity Communication in Optical Transport Networks," *IEEE/OSA J. Lightw. Technol.*, vol. 27, no. 16, pp. 3518-3530, August 15, 2009. (**Invited paper.**)
- [J-98] H. G. Batshon, I. B. Djordjevic, L. Xu, and T. Wang, "Multidimensional LDPC-Coded Modulation for Beyond 400 Gb/s per Wavelength Transmission," *IEEE Photon. Technol. Lett.*, vol. 21, no. 16, pp. 1139-1141, August 15, 2009.
- [J-99] I. B. Djordjevic, "Photonic Quantum Dual-Containing LDPC Encoders and Decoders," *IEEE Photon. Technol. Lett.*, vol. 21, no. 13, pp. 842-844, July 1, 2009.
- [J-100] I. B. Djordjevic, L. Xu, and T. Wang, "Beyond 100 Gb/s Optical Transmission Based on Polarization Multiplexed Coded-OFDM with Coherent Detection," *IEEE/OSA J. Opt. Commun. Netw.*, vol. 1, no. 1, pp. 50-56, June 2009.
- [J-101] I. B. Djordjevic, L. Xu, and T. Wang, "Optical LDPC Decoders for Beyond 100 Gb/s Optical Transmission," *Optics Letters*, vol. 34, no. 9, pp. 1420-1422, May 1, 2009.
- [J-102] I. B. Djordjevic, "LDPC-Coded M-ary PSK Optical Coherent State Quantum Communication," *IEEE/OSA J. Lightw. Technol.*, vol. 27, no. 5, pp. 494-499, March 1, 2009.
- [J-103] S. Denic, I. B. Djordjevic, J. Anguita, B. Vasic, and M. A. Neifeld, "Information Theoretic Limits for Free-Space Optical Channels with and without Memory," *IEEE/OSA J. Lightwave Technol.*, vol. 26, no.19, pp. 3376-3384, October 1, 2008.
- [J-104] I. B. Djordjevic, L. Xu, T. Wang and M. Cvijetic, "GLDPC Codes with Reed-Muller Component Codes Suitable for Optical Communications," *IEEE Comm. Lett.*, vol. 12, pp. 684-686, Sept. 2008.
- [J-105] I. B. Djordjevic, L. Xu, and T. Wang, "PMD Compensation in Coded-Modulation Schemes with Coherent Detection using Alamouti-Type Polarization-Time Coding," *Optics Express*, vol. 16, no. 18, pp. 14163-14172, Sept. 1, 2008.

- [J-106] I. B. Djordjevic, L. Xu, and T. Wang, "PMD Compensation in Multilevel Coded-Modulation Schemes with Coherent Detection using BLAST Algorithm and Iterative Polarization Cancellation," *Optics Express*, vol. 16, no. 19, pp. 14845-14852, Sept. 15, 2008.
- [J-107] I. B. Djordjevic, "Quantum LDPC Codes from Balanced Incomplete Block Designs," *IEEE Comm. Lett.*, vol. 12, pp. 389-391, May 2008.
- [J-108] L. L. Minkov, I. B. Djordjevic, L. Xu, T. Wang, and F. Kueppers, "Evaluation of Large Girth LDPC Codes for PMD Compensation by Turbo Equalization," *Optics Express*, vol. 16, no. 17, pp. 13450-13455, 2008.
- [J-109] I. B. Djordjevic, L. L. Minkov, and H. G. Batshon, "Mitigation of Linear and Nonlinear Impairments in High-Speed Optical Networks by Using LDPC-Coded Turbo Equalization," *IEEE J. Sel. Areas Comm., Optical Comm. and Netw.*, vol. 26, no. 6, pp. 73-83, Aug. 2008.
- [J-110] I. B. Djordjevic, L. Xu, and T. Wang, "Simultaneous Chromatic Dispersion and PMD Compensation by Using Coded-OFDM and Girth-10 LDPC Codes," *Optics Express*, vol. 16, no. 14, pp. 10269-10278, July 7, 2008.
- [J-111] H. G. Batshon, I. B. Djordjevic, L. L. Minkov, L. Xu, T. Wang and M. Cvijetic, "Proposal to Achieve 1 Tb/s per Wavelength Transmission Using 3-Dimensional LDPC-Coded Modulation," *IEEE Photon. Technol. Lett.*, vol. 20, no. 9, pp. 721-723, May 1, 2008.
- [J-112] I. B. Djordjevic, S. Denic, J. Anguita, B. Vasic, and M. A. Neifeld, "LDPC-Coded MIMO Optical Communication over the Atmospheric Turbulence Channel," *IEEE/OSA J. Lightwave Technol.*, vol. 26, no. 5, pp. 478-487, March 1, 2008.
- [J-113] I. B. Djordjevic, and B. Vasic, "LDPC-Coded OFDM in Fiber-Optics Communication Systems [Invited]," *J. Opt. Netw.*, vol. 7, pp. 217-226, 2008.
- [J-114] I. B. Djordjevic, "LDPC-Coded Optical Coherent State Quantum Communications," *IEEE Photon. Technol. Lett.*, vol. 19, no. 24, pp. 2006-2008, Dec. 15, 2007.
- [J-115] I. B. Djordjevic, M. Cvijetic, L. Xu, and T. Wang, "Using LDPC-Coded Modulation and Coherent Detection for Ultra High-Speed Optical Transmission," *IEEE/OSA J. Lightwave Technol.*, vol. 25, pp. 3619-3625, Nov. 2007.
- [J-116] L. L. Minkov, I. B. Djordjevic, H. G. Batshon, L. Xu, T. Wang, M. Cvijetic, and F. Kueppers, "Demonstration of PMD Compensation by LDPC-Coded Turbo Equalization and Channel Capacity Loss Characterization Due to PMD and Quantization," *IEEE Photon. Technol. Lett.*, vol. 19, no. 22, pp. 1852-1854, Nov. 15, 2007.
- [J-117] M. Ivkovic, I. Djordjevic, P. Rajkovic, and B. Vasic, "Pulse Energy Probability Density Functions for Long-Haul Optical Fiber Transmission Systems by Using Instantons and Edgeworth Expansion," *IEEE Photon. Technol. Lett.*, vol. 19, No. 20, pp. 1604 - 1606, Oct. 15, 2007.
- [J-118] I. B. Djordjevic, B. Vasic, and M.A. Neifeld, "LDPC-Coded OFDM for Optical Communication Systems with Direct Detection," *IEEE/LEOS Journal of Selected Topics in Quantum Electronics*, vol. 13, no. 5, pp. 1446 - 1454, Sept.-Oct. 2007.
- [J-119] I. B. Djordjevic, H. G. Batshon, M. Cvijetic, L. Xu, and T. Wang, "PMD Compensation by LDPC-Coded Turbo Equalization," *IEEE Photon. Technol. Lett.*, vol. 19, no. 15, pp. 1163 - 1165, Aug.1, 2007.
- [J-120] L. Pu, M.W. Marcellin, I. Djordjevic, B. Vasic, and A. Bilgin, "Joint Source-Channel Rate Allocation in Parallel Channels," *IEEE Transactions on Image Processing*, vol. 16, pp. 2016-2022, Aug. 2007.
- [J-121] I. B. Djordjevic, "LDPC-Coded MIMO Optical Communication over the Atmospheric Turbulence Channel using Q-ary Pulse-Position Modulation," *Optics Express*, vol. 15, no. 16, pp. 10026-10032, Aug. 2007.
- [J-122] I. B. Djordjevic, M. Cvijetic, L. Xu, and T. Wang, "Proposal for Beyond 100 Gb/s Optical Transmission based on Bit-Interleaved LDPC-Coded Modulation," *IEEE Photon. Technol. Lett.*, vol. 19, no. 12, pp. 874-876, June 15, 2007.
- [J-123] I. B. Djordjevic, "LDPC-Coded OFDM Transmission over Graded-Index Plastic Optical Fiber Links," *IEEE Photonics Technology Letters*, vol. 19, no. 12, pp. 871-873, June 15, 2007.
- [J-124] M. Ivkovic, I.B. Djordjevic, and B. Vasic, "Calculation of Achievable Information Rates of Long-Haul Optical Transmission Systems using Instanton Approach," *IEEE/OSA J. Lightwave Technol.*, vol. 25, no. 5, pp. 1163-1168, May 2007.
- [J-125] I. B. Djordjevic, B. Vasic, and M. A. Neifeld, "LDPC Coded OFDM over the Atmospheric Turbulence Channel," *Optics Express*, vol. 15, no. 10, pp. 6332-6346, May 2007.
- [J-126] I. B. Djordjevic, "PMD Compensation in Fiber-optic Communication Systems with Direct Detection using LDPC-Coded OFDM," *Opt. Express*, vol. 15, pp. 3692-3701, 2 April 2007.
- [J-127] I. B. Djordjevic, N. Alic, G. Papen, and S. Radic, "Determination of Achievable Information Rates (AIRs) of IM/DD Systems and AIR Loss Due to Chromatic Dispersion and Quantization," *IEEE Photon. Technol. Lett.*, vol. 19, no. 1, pp. 12-14, Jan. 1, 2007.
- [J-128] H. G. Batshon, I. B. Djordjevic, and B. Vasic, "An Improved Technique for Suppression of Intrachannel Four-Wave Mixing in 40 Gb/s Optical Transmission Systems," *IEEE Photonics Technol. Lett.*, vol. 19, no. 2, pp. 67-69, Jan. 15, 2007.
- [J-129] B. Vasic, I. B. Djordjevic, and V. S. Rao, "Advanced Detection and Coding Techniques for Nonlinear Intersymbol Interference Cancellation in 40 Gb/s Systems," *IEE Proceedings-Optoelectronics*, vol.153, no. 4, pp. 174-178, Aug. 2006.
- [J-130] I. B. Djordjevic, and B. Vasic, "100 Gb/s Transmission Using Orthogonal Frequency Division Multiplexing," *IEEE Photonics Technology Letters*, vol. 18, no. 15, pp. 1576-1578, Aug. 2006.

- [J-131] I. B. Djordjevic, S. Sankaranarayanan, S.K. Chilappagari, and B. Vasic, "Low-Density Parity-Check Codes for 40 Gb/s Optical Transmission Systems," *IEEE/LEOS Journal of Selected Topics in Quantum Electronics*, vol. 12, no. 4, pp. 555-562, July/Aug. 2006.
- [J-132] I. B. Djordjevic, B. Vasic, M. A. Neifeld, "Multilevel Coding in Free-Space Optical MIMO Transmission with Q-ary PPM over the Atmospheric Turbulence Channel," *IEEE Photonics Technology Letters*, vol. 18, no. 14, pp. 1491 – 1493, July 2006.
- [J-133] I. B. Djordjevic, and B. Vasic, "Noise-Predictive BCJR Equalization for Suppression of Intrachannel Nonlinearities," *IEEE Photonics Technology Letters*, vol. 18, no. 12, pp. 1317- 1319, Jun 15, 2006.
- [J-134] I. B. Djordjevic and B. Vasic, "Nonlinear BCJR Equalizer for Suppression of Intrachannel Nonlinearities in 40 Gb/S Optical Communications Systems," *Opt. Express*, vol. 14, pp. 4625-4635, May 29, 2006.
- [J-135] I. B. Djordjevic, and B. Vasic, "Orthogonal Frequency Division Multiplexing for High-Speed Optical Transmission," *Optics Express*, vol. 14, pp. 3767-3775, May 1, 2006.
- [J-136] I. B. Djordjevic, D. F. Geraghty, A. Patil, C. H. Chen, R. Kostuk and B. Vasic, "Demonstration of Spectral-Amplitude Encoding/Decoding for Multimedia Optical CDMA Applications," *J. Opt. Comm.*, vol. 27, no. 2, pp. 121-124, Apr. 2006.
- [J-137] J. M. Castro, I. B. Djordjevic, and D. F. Geraghty, "Novel Super-Structured Bragg Gratings for Optical Encryption," *IEEE/OSA J. Lightwave Technol.*, vol. 24, pp. 1875 - 1885, Apr. 2006.
- [J-138] J. M. Castro, I. B. Djordjevic, L. Minkov, C. M. Greiner, D. Iazikov, T.W. Mossberg, and D. F. Geraghty, "Compact OCDMA Encoders Based on the Anti-Symmetric Waveguide Bragg Grating," *IEEE Photonics Technol. Lett.*, vol. 18, no. 7, pp. 892-894, April 1, 2006.
- [J-139] I. B. Djordjevic, B. Vasic, and V. S. Rao, "A Rate 2/3 Modulation Code for Suppression of Intrachannel Nonlinear Effects in High-Speed Optical Transmission," *IEE Proceedings-Optoelectronics*, vol. 153, no. 2, pp. 87-92, Apr. 2006.
- [J-140] I. B. Djordjevic, D. F. Geraghty, A. Patil, C. H. Chen, R. Kostuk and B. Vasic, "Demonstration of Spectral-Amplitude Encoding/Decoding for Multimedia Optical CDMA Applications," *Journal of Optical Communications*, vol. 27, no. 2, pp. 121-124, Apr. 2006.
- [J-141] I. B. Djordjevic, S. K. Chilappagari, and B. Vasic, "Suppression of Intrachannel Nonlinear Effects Using Pseudo-Ternary Constrained Codes," *IEEE/OSA J. Lightwave Technology*, vol. 24, pp. 769-774, Feb. 2006.
- [J-142] I. B. Djordjevic, and B. Vasic, "Constrained Coding Techniques for Suppression of Intrachannel Nonlinear Effects in High-Speed Optical Transmission," *IEEE/OSA J. Lightwave Technology*, vol. 24, pp. 411-419, Jan. 2006.
- [J-143] I. B. Djordjevic, and B. Vasic, "Multilevel Coding in M-ary DPSK/Differential QAM High-Speed Optical Transmission with Direct Detection," *IEEE/OSA J. Lightwave Technology*, vol. 24, no. 1, pp. 420-428, Jan. 2006.
- [J-144] R. K. Kostuk, W. Maeda, Chia-Hung Chen, I. Djordjevic, and B. Vasic, "Cascaded Holographic Polymer Reflection Grating Filters For Optical Code Division Multiple Access Applications," *Applied Optics*, vol. 44, no. 35, pp.7581-7586, 10 December 2005.
- [J-145] I. B. Djordjevic, B. Vasic, M. Ivkovic and I. Gabitov, "Achievable Information Rates for High-Speed Long-Haul Optical Transmission," *IEEE/OSA J. Lightwave Technology*, vol. 23, pp. 3755-3763, Nov. 2005.
- [J-146] S. Sankaranarayanan, I. B. Djordjevic, and B. Vasic, "Iteratively Decodable Codes on m-Flats for WDM High-Speed Long-Haul Transmission," *IEEE/OSA J. Lightwave Technology*, vol. 23, pp. 3696-3701, Nov. 2005.
- [J-147] I. B. Djordjevic, and B. Vasic, "Nonbinary LDPC Codes for Optical Communication Systems," *IEEE Photonics Technology Letters*, vol. 17, pp. 2224-2226, Oct. 2005.
- [J-148] I. B. Djordjevic, and B. Vasic, "Iteratively Decodable Codes from Orthogonal Arrays for Optical Communication Systems," *IEEE Communications Letters*, vol. 9, pp. 924-926, Oct. 2005.
- [J-149] J. A. Anguita, I. B. Djordjevic, M. A. Neifeld, and B. V. Vasic, "Shannon Capacities and Error-Correction Codes for Optical Atmospheric Turbulent Channels," *OSA Journal of Optical Networking*, vol. 4, pp. 586-601, Sept. 2005.
- [J-150] I. B. Djordjevic, O. Milenkovic, and B. Vasic, "Generalized Low-Density Parity-Check Codes for Optical Communication Systems," *IEEE/OSA J. Lightwave Technology*, vol. 23, pp. 1939- 1946, May 2005.
- [J-151] I. B. Djordjevic, and B. Vasic, "Performance of Affine Geometry Low-Density Parity-Check Codes in Long-Haul Optical Communications," *European Transactions on Telecommunications*, vol. 15, pp. 477-483, 27 Sept. 2004.
- [J-152] R. Varrazza, I. B. Djordjevic, and S. Yu, "Active Vertical-Coupler Based Optical Crosspoint Switch Matrix for Optical Packet-Switching Applications," *IEEE/OSA J. Lightwave Technology*, vol. 22, pp. 2034-2042, Sept. 2004.
- [J-153] I. B. Djordjevic, and B. Vasic, "MacNeish-Mann Theorem Based Iteratively Decodable Codes for Optical Communication Systems," *IEEE Communications Letters*, vol. 8, pp. 538-540, Aug. 2004.
- [J-154] I. B. Djordjevic, J. Rorison, and S. Yu, "Modified Duobinary RZ Modulation Format for High-Speed Transmission", *Journal of Optical Communications*, vol. 25, no. 4, pp. 155-157, Aug. 2004.
- [J-155] I. B. Djordjevic, J. Rorison, and S. Yu, "Chirped NRZ Modulation Format for High Speed Transmission", *Journal of Optical Communications*, vol. 25, no. 4, pp. 158-160, Aug. 2004.
- [J-156] B. Vasic, V. S. Rao, I. B. Djordjevic, R. K. Kostuk, and I. Gabitov, "Ghost Pulse Reduction in 40 Gb/s Systems Using Line Coding," *IEEE Photon. Technol. Lett.*, vol. 16, pp. 1784-1786, July 2004.
- [J-157] I. B. Djordjevic, and B. Vasic, "High Code Rate Low-Density Parity-Check Codes for Optical Communication Systems," *IEEE Photonics Technology Letters*, vol. 16, pp. 1600-1602, June 2004.

- [J-158] I. B. Djordjevic, and B. Vasic, "Combinatorial Constructions of Optical Orthogonal Codes for OCDMA Systems," *IEEE Communications Letters*, vol. 8, pp. 391-393, June 2004.
- [J-159] I. B. Djordjevic, B. Vasic, and J. Rorison, "Multi-Weight Unipolar Codes for Spectral-Amplitude-Coding Optical CDMA Systems," *IEEE Communications Letters*, vol. 8, pp. 259-261, April 2004.
- [J-160] O. Milenkovic, I. B. Djordjevic, and B. Vasic, "Block-Circulant Low-Density Parity-Check Codes for Optical Communication Systems," *IEEE/LEOS Journal of Selected Topics in Quantum Electronics*, vol. 10, no. 2, pp. 294-299, March/April 2004.
- [J-161] I. B. Djordjevic, S. Sankaranarayanan, and B. Vasic, "Projective Plane Iteratively Decodable Block Codes for WDM High-Speed Long-Haul Transmission Systems," *IEEE/OSA Journal of Lightwave Technology*, vol. 22, pp. 695-702, Mar. 2004.
- [J-162] I. B. Djordjevic, and B. Vasic, "An Advanced Direct Detection Receiver Model," *Journal of Optical Communications*, vol. 25, no. 1, pp. 6-9, Feb. 2004.
- [J-163] I. B. Djordjevic, S. Sankaranarayanan, and B. Vasic, "Irregular Low-Density Parity-Check Codes for Long Haul Optical Communications," *IEEE Photonics Technology Letters*, vol. 16, pp. 338-340, Jan. 2004.
- [J-164] I. B. Djordjevic, R. Varrazza, M. Hill, and S. Yu, "Packet Switching Performance at 10Gb/s Across a 4x4 Optical Crosspoint Switch Matrix," *IEEE Photonics Technology Letters*, vol. 16, pp. 102-104, Jan. 2004.
- [J-165] R. Varrazza, I. B. Djordjevic, M. Hill, and S. Yu, "4x4 Optical Crosspoint Packet Switch Matrix with Minimized Path-Dependent Optical Gain," *Optics Letters*, vol. 28, no. 22, pp. 2252-2254, Nov. 2003.
- [J-166] I. B. Djordjevic, B. Vasic, and J. Rorison, "Design of Multi-Weight Unipolar Codes for Multimedia Optical CDMA Applications Based on Pairwise Balanced Designs," *IEEE/OSA J. Lightwave Technology*, vol. 21, pp. 1850-1856, Sept. 2003.
- [J-167] I. B. Djordjevic, and B. Vasic, "Novel Combinatorial Constructions of Optical Orthogonal Codes for Incoherent Optical CDMA Systems," *IEEE/OSA J. Lightwave Technology*, vol. 21, pp. 1869-1875, Sept. 2003.
- [J-168] I. B. Djordjevic, and B. Vasic, "Unipolar Codes for Spectral-Amplitude-Coding Optical CDMA Systems Based on Projective Geometries," *IEEE Photonics Technology Letters*, vol. 15, pp. 1318-1320, Sept. 2003.
- [J-169] I. B. Djordjevic, and B. Vasic, "LDPC Codes for Long Haul Optical Communications Based on High-Girth Designs," *Journal of Optical Communications*, vol. 24, no. 3, pp. 94-96, Jun. 2003.
- [J-170] B. Vasic, and I. B. Djordjevic, "Spectral-Amplitude-Coding Optical CDMA Systems Based on Steiner Systems," *Journal of Optical Communications*, vol. 24, no. 3, pp. 90-93, June 2003.
- [J-171] I. B. Djordjevic, and B. Vasic, "Receiver Modeling for Optically Amplified Communication Systems," *International Journal of Electronics and Communications (AEU)*, vol. 57, no. 6, pp. 381-390, 2003.
- [J-172] I. B. Djordjevic, and B. Vasic, "Projective Geometry Low-Density Parity-Check Codes for Ultra-Long Haul WDM High-Speed Transmission," *IEEE Photonics Technology Letters*, vol. 15, pp. 784-786, May 2003.
- [J-173] B. Vasic, and I. B. Djordjevic, "Affine Geometry Low-Density Parity Check Codes in Long Haul Optical Communications," *Journal of Optical Communications*, vol. 24, no. 2, pp. 50-53, Apr. 2003.
- [J-174] I. B. Djordjevic, and A. S. Stavdas, "Analytical Modeling of Stimulated Raman Scattering in WDM Systems with Dispersion Compensated Links," *Journal of Optical Communications*, vol. 24, no. 2, pp. 54-60, Apr. 2003.
- [J-175] I. B. Djordjevic, A. Stavdas, C. Skoufis, S. Sygletos, and C. Matrakidis, "Analytical Modeling of Fibre Non-linearities in Amplified Dispersion Compensated WDM Systems," *International Journal of Modelling and Simulation*, vol. 23, no. 4, pp. 226-233, 2003.
- [J-176] I. B. Djordjevic, and B. Vasic, "On Decision Statistics of Direct Detection Receivers in Optically Amplified Communication Systems," *International Journal of Modelling and Simulation*, vol. 23, no. 3, 2003.
- [J-177] B. Vasic, I. B. Djordjevic, and R. Kostuk, "Low-Density Parity Check Codes and Iterative Decoding for Long Haul Optical Communication Systems," *IEEE/OSA Journal of Lightwave Technology*, vol. 21, pp. 438-446, Feb. 2003.
- [J-178] B. Vasic, and I. B. Djordjevic, "Iteratively Decodable Block Codes in Long-Haul Optical Transmission Systems," *Journal of Optical Communications*, vol. 23, no. 5, pp. 182-186, Oct. 2002.
- [J-179] I. B. Djordjevic, and B. Vasic, "Multipath Interference Influence on Raman Based System Performance," *Journal of Optical Communications*, vol. 23, no. 5, pp. 162-164, Oct. 2002.
- [J-180] B. Vasic, and I. B. Djordjevic, "Low-Density Parity Check Codes for Long Haul Optical Communications Systems," *IEEE Photonics Technology Letters*, vol. 14, pp. 1208-1210, Aug. 2002.
- [J-181] I. B. Djordjevic, "Optical Homodyne PSK Receivers with Costas Loop for Long-haul Communications," *Journal of Optical Communications*, vol. 23, no. 4, pp. 154-158, Aug. 2002.
- [J-182] I. B. Djordjevic, and A. Stavdas, "Probability Density Function of Four Wave Mixing Crosstalk in WDM Systems," *Journal of Optical Communications*, vol. 22, no. 6, pp. 236-238, 2001.
- [J-183] I. B. Djordjevic, "Nonnegligible Loop Delay Time Influence on Coherent Optical PSK Systems Performance Degradation," *Journal of Optical Communications*, vol. 22, no. 4, pp. 147-153, 2001.
- [J-184] I. B. Djordjevic, "Optimization of Channel Spacing in WDM Transmission Systems with Dispersion Compensated Links in the Presence of Fiber Nonlinearities," *Journal of Optical Communications*, vol. 22, no. 3, pp. 104-109, 2001.
- [J-185] I. B. Djordjevic, M. C. Stefanovic, and G. T. Djordjevic, "Performance of Coherent Optical PSK Systems with Costas Loop in Receiver for Nonlinear Second Order PLL Model," *International Journal of Modeling and Simulation*, vol. 21, no. 4, pp. 243-248, 2001.

- [J-186] I. B. Djordjevic, and M. C. Stefanovic, "Performance of Coherent Optical PSK Systems with Balanced PLL Receivers for Nonlinear Second Order PLL Model," *Journal of Optical Communications*, vol. 21, no. 2, pp. 46-51, 2000.
- [J-187] I. B. Djordjevic, M. C. Stefanovic, and G. T. Djordjevic, "Performance Optimization and Laser Linewidth Requirement Evaluation for a Coherent Optical PSK System with DDL," *International Journal of Modelling and Simulation*, vol. 20, no. 4, pp. 300-307, 2000.
- [J-188] I. B. Djordjevic, and M. C. Stefanovic, "Performance of Optical Heterodyne PSK Systems with Costas Loop in Multichannel Environment for Nonlinear Second Order PLL Model," *IEEE Journal of Lightwave Technology*, vol. 17, pp. 2470-2479, Dec. 1999.
- [J-189] I. B. Djordjevic, M. C. Stefanovic, and G. T. Djordjevic, "Performance Optimization and Exact Laser Linewidth Requirements Evaluation for Optical PSK Homodyne Communication Systems with Costas Loop or DDL," *Journal of Optical Communications*, vol. 20, no. 5, pp. 178-182, Oct. 1999.
- [J-190] M. C. Stefanovic, G. T. Djordjevic, I. B. Djordjevic, and N. D. Stojanovic, "Influence of Imperfect Carrier Recovery on Satellite QPSK Communication System Performance," *International Journal of Satellite Communications*, vol. 17, pp. 37-49, 29 Jun 1999.
- [J-191] M. C. Stefanovic, I. B. Djordjevic, G. T. Djordjevic, and J. V. Basta, "Coherent Optical Heterodyne PSK Receiver in Multichannel Environment," *Journal of Optical Communications*, vol. 20, no. 1, pp. 12-15, Feb. 1999.
- [J-192] M. C. Stefanovic, G. T. Djordjevic, and I. B. Djordjevic, "Performance of Binary CPSK Satellite Communication System in the Presence of Noises and Noisy Carrier Reference Signal," *International Journal of Electronics and Communications (AEU)*, vol. 53, no. 2, pp. 70-76, 1999.
- [J-193] I. B. Djordjevic, M. C. Stefanovic, S. S. Ilic and G. T. Djordjevic, "An Example of Hybrid System: Coherent Optical System with Costas Loop in Receiver-System for Transmission in Baseband," *IEEE Journal of Lightwave Technology*, vol. 16, pp. 177-183, Feb. 1998.
- [J-194] M. C. Stefanovic, I. B. Djordjevic, and Z. H. Peric, "Performance of ASK System with Optical PLL in the Presence of Laser Phase Noise," *Journal of Optical Communications*, vol. 18, no. 3, pp. 114-116, 1997.

SCHOLARLY PRESENTATIONS

- [C-1] Y. Li, M. Yang, W. Mo, S. Zhu, Z. Qu, I. Djordjevic, D. Kilper, "Hysteresis-based Margin Allocation for Adaptive Coding in SDN-enabled Optical Networks," *OFC 2018*, Paper Th1D.2, San Diego, CA, USA.
- [C-2] S. Zhang, Z. Qu, F. Yaman, E. Mateo, T. Inoue, K. Nakamura, Y. Inada, I. Djordjevic, "Flex-Rate Transmission using Hybrid Probabilistic and Geometric Shaped 32QAM," *OFC 2018*, Paper M1G.3, San Diego, CA, USA.
- [C-3] Z. Qu, S. Zhang, I. Djordjevic, "Universal Hybrid Probabilistic-geometric Shaping Based on Two-dimensional Distribution Matchers," *OFC 2018*, Paper M4E.4, San Diego, CA, USA.
- [C-4] M. Yang, H. Rastegarfar, I. Djordjevic, "SDN-Based Application Driven In-Band Adaptive Coding in Data Centers," *OFC 2018*, Paper W2A.21, San Diego, CA, USA.
- [C-5] V. Ilic, I. B. Djordjevic, M. Stankovic, "On a general definition of conditional Renyi entropies," in *Proc. 4th International Electronic Conference on Entropy and Its Applications*, 21 November–1 December 2017; Sciforum Electronic Conference Series, vol. 4, 2017 ; doi:10.3390/ecea-4-05030 (7 pages)
- [C-6] M. Yang, I. B. Djordjevic, "SDN-based In-band Adaptive Synchronization with Self-generated Preamble Detection Scheme," *OSA Asia Communications and Photonics Conference (ACP 2017)*, 10 - 13 November 2017, Guangzhou, Guangdong, China.
- [C-7] X. Han, I. B. Djordjevic, "Study of Different PAM4 Distributions to Maximize the Mutual Information," *OSA Asia Communications and Photonics Conference (ACP 2017)*, 10 - 13 November 2017, Guangzhou, Guangdong, China.
- [C-8] M. Yang, I. B. Djordjevic, C. Tunc, S. Hariri, and A. Akoglu, "An Optical Interconnect Network Design for Dynamically Composable Data Centers," *The 19th IEEE International Conference on High Performance Computing and Communications (HPCC 2017)*, Dec. 18-20, 2017, Bangkok, Thailand.
- [C-9] I. B. Djordjevic, S. Zhang, and T. Wang, "OAM-based Physical-Layer Security Enabled by Hybrid Free-Space Optical-Terahertz Technology," *IEEE 13th International Conference on Advanced Technologies, Systems and Services in Telecommunications - TELSIKS 2017*, 18-20 October 2017, Niš, Serbia.
- [C-10] I. B. Djordjevic, S. Zhang, T. Wang, "Physical-Layer Security in Optical Communications Enabled by Bessel Modes," *2017 IEEE Photonics Conference (IPC)*, Paper ThH1.3, 1-5 October 2017, Lake Buena Vista, Florida, USA.
- [C-11] J. Gariano, I. B. Djordjevic, T. Liu, "Optimal Wavelength Selection for Entangled Quantum Key Distribution," *2017 IEEE Photonics Conference (IPC)*, Paper ThH1.4, 1-5 October 2017, Lake Buena Vista, Florida, USA.
- [C-12] Z. Qu, I. B. Djordjevic, "Exploring the non-uniform shaped modulation formats," *43th European Conference on Optical Communication (ECOC 2017), Workshop: Constellation shaping – a simple add-on or a tool to combat the nonlinear fiber limit?*, September 17 - 21, 2017, Gothenburg, Sweden.
- [C-13] Z. Qu, I. B. Djordjevic, "Geometrically Shaped 16QAM Outperforming Probabilistically Shaped 16QAM," *43th European Conference on Optical Communication (ECOC 2017)*, Paper Th.2.F.4, September 17 - 21, 2017, Gothenburg, Sweden.
- [C-14] Z. Qu, I. B. Djordjevic, "Approaching Gb/s Secret Key Rates in a Free-Space Optical CV-QKD System Affected by Atmospheric Turbulence," *43th European Conference on Optical Communication (ECOC 2017)*, Paper P2.SC6.32, September 17 - 21, 2017, Gothenburg, Sweden.

- [C-15] I. B. Djordjevic, S. Zhang, T. Wang, "Multidimensional Coded Modulation for Wireless Communications Beyond 5G," *IEEE 13th International Conference on Advanced Technologies, Systems and Services in Telecommunications - TELSIKS 2017*, 18-20 October 2017, Niš, Serbia. (**Keynote Invited Paper.**)
- [C-16] D. Zou, I. B. Djordjevic, "Real-Time Adaptive LDPC Coded APSK for Aeronautical Telemetry," *IEEE 13th International Conference on Advanced Technologies, Systems and Services in Telecommunications - TELSIKS 2017*, 18-20 October 2017, Niš, Serbia.
- [C-17] J. Gariano, I. B. Djordjevic, "Multimode entanglement assisted QKD through a free-space maritime channel," *Quantum Technologies and Quantum Information Science, SPIE Security + Defence*, 11 - 14 September 2017, Warsaw, Poland.
- [C-18] I. B. Djordjevic, S. Zhang, T. Wang, "Optically-Secured Bidirectional Adaptive Software-Defined Optical Sensor Network Architecture," in Proc. *ICTON 2017*, paper Tu.C1.5, Girona, Spain, July 2-6, 2017.
- [C-19] M. Petkovic, G. T. Djordjevic, I. B. Djordjevic, "Analysis of Mixed RF/FSO System with Imperfect CSI Estimation," in Proc. *ICTON 2017*, paper Mo.C2.1, Girona, Spain, July 2-6, 2017.
- [C-20] Z. Qu, I. B. Djordjevic, "Beyond 1 Tb/s Free-space Optical Transmission in the Presence of Atmospheric Turbulence," *19th Photonics North Conference*, June 6-8, 2017, Ottawa, Canada. (**Invited Paper.**)
- [C-21] J. Gariano, I. B. Djordjevic, "PPLN-waveguide-based polarization entangled QKD simulator," *SPIE Optical Engineering + Applications*, 6 - 10 August 2017, San Diego, California, United States.
- [C-22] I. B. Djordjevic, "Channel coding for optical transmission systems," *CLEO-PR, OECC and PGC 2017*, 31 July - 4 August 2017, Singapore. (**Invited Paper.**)
- [C-23] Z. Qu and I. B. Djordjevic, "FEC Coding for Nonuniform QAM," in *Advanced Photonics 2017 (IPR, NOMA, Sensors, Networks, SPCCOM, PS)*, OSA Technical Digest (online) (Optical Society of America, 2017), paper SpTu3E.2. (**Invited Paper.**)
- [C-24] Z. Qu, I. B. Djordjevic, "RF-assisted coherent detection based continuous variable (CV) QKD with high secure key rates over atmospheric turbulence channels," in Proc. *ICTON 2017*, paper Tu.D2.2, Girona, Spain, July 2-6, 2017. (**Invited Paper.**)
- [C-25] I. B. Djordjevic, D. Zou, "FPGA-Based Rate-Adaptive LDPC-Coded Modulation for the Next Generation of Optical Communication Systems," in Proc. *ICTON 2017*, paper Mo.D1.3, Girona, Spain, July 2-6, 2017. (**Invited Paper.**)
- [C-26] S. Zhang, F. Yaman, Y. Huang, J. D. Downie, X. Sun, A. Zakharian, R. Khrapko, W. Wood, I. B. Djordjevic, E. Mateo, Y. Inada, "50.962Tb/s over 11185 km Bi-Directional C+L Transmission using Optimized 32QAM," in *Conference on Lasers and Electro-Optics, OSA Technical Digest (online)* (Optical Society of America, 2017), paper JTh5A.9.
- [C-27] Z. Qu, I. B. Djordjevic, "Long-haul Optical Transmission Systems Enabled by LDPC Coded Non-Uniform Signaling," *EMN Optoelectronics Meeting 2017*, pp. 27-28, April 17- 21, 2017, Victoria, Canada. (**Invited Paper.**)
- [C-28] I. B. Djordjevic, "Optically encrypted multidimensional coded modulation enabling ultra-high speed optical transmission," *EMN Optoelectronics Meeting 2017*, pp. 22-23, April 17- 21, 2017, Victoria, Canada. (**Invited Paper.**)
- [C-29] Z. Qu, C. Lin, T. Liu, I. B. Djordjevic, "Experimental Study of Nonlinearity Tolerant Modulation Formats Based on LDPC Coded Non-uniform Signaling," *OFC 2017*, Paper W1G.7, 19 – 23 March 2017, Los Angeles, CA, USA.
- [C-30] Z. Qu, I. B. Djordjevic, "High-speed continuous-variable quantum key distribution over atmospheric turbulent channels," *PhotonicsWest 2017, LASE*, Advances in Photonics of Quantum Computing, Memory, and Communication X, Paper 10118-11, 28 January–2 February 2017, San Francisco, California, United States.
- [C-31] Z. Qu, I. B. Djordjevic, "OAM Communication in Strong Atmospheric Turbulence Regime Enabled by Adaptive Optics and LDPC Coding," *47th Winter Colloquium on the Physics of Quantum Electronics (PQE-2017)*, Technologies for OAM Transmission Links, January 8-13, 2017, Snowbird, Utah, USA. (**Invited paper.**)
- [C-32] I. B. Djordjevic, Z. Qu, "OAM-based Optical Transmission over Strong Atmospheric Turbulence Channels," *OSA/IEEE/SPIE Asia Communications and Photonics Conference 2016 (ACP 2016), Workshop 1: Twisting Light with Orbital Angular Momentum (OAM): Advances and Opportunities*, 2-5 November 2016, Wuhan, China. (**Invited Presentation.**)
- [C-33] C. Lin, Z. Qu, T. Liu, D. Zou, I. B. Djordjevic, "Experimental study of capacity approaching general LDPC coded non-uniform shaping modulation format," *OSA/IEEE/SPIE Asia Communications and Photonics Conference 2016 (ACP 2016)*, 2-5 November 2016, Wuhan, China.
- [C-34] N. Kumbhare, C. Tunc, S. Hariri, I. B. Djordjevic, A. Akoglu, H. J. Siegel, "Just In Time Architecture (JITA) for Dynamically Composable Data Centers," in Proc. *13th ACS/IEEE International Conference on Computer Systems and Applications AICCSA 2016*, 29 Nov - 2 Dec 2016, Agadir, Morocco, doi: 10.1109/AICCSA.2016.7945778. (8 pages)
- [C-35] I. B. Djordjevic, S. Zhang, T. Wang, "Optically Encrypted Multidimensional Coded Modulation for Multi-Pb/s Optical Transport," in Proc. *IEEE Photonics Conference*, Paper MB3.6, pp. 57-58, 2 - 6 October 2016, Waikoloa, Hawaii, USA.
- [C-36] T. Liu, Z. Qu, C. Lin, I. B. Djordjevic, "Nonuniform Signaling based LDPC-Coded Modulation for High-Speed Optical Transport Networks," *OSA Asia Communications and Photonics Conference (ACP) 2016*, Nov. 2-5 2016, Wuhan, China. (**Invited Paper.**)
- [C-37] Z. Qu, C. Lin, T. Liu, I. B. Djordjevic, "Experimental Investigation of GF(3²) Nonbinary LDPC coded Non-uniform 9-QAM Modulation Format," *42nd European Conference on Optical Communication (ECOC 2016)*, September 18-22, Düsseldorf, Germany.

- [C-38] D. Zou, I. B. Djordjevic, "Bit Loading-Based Irregular LDPC Coded-Modulation for High-Speed Optical Communications," in Proc. *IEEE ICTON 2016*, Paper Tu.A1.6, Trento, Italy, July 10-14, 2016. (4 pages)
- [C-39] I. B. Djordjevic, X. Sun "Spatial modes-based physical-layer security," in Proc. *IEEE ICTON 2016*, Paper Mo.C1.3, Trento, Italy, July 10-14, 2016. (**Invited Paper.**) (5 pages)
- [C-40] Z. Qu, I. B. Djordjevic, "Approaching terabit serial optical transmission over strong atmospheric turbulence channels," in Proc. *IEEE ICTON 2016*, Paper Tu.A2.3, Trento, Italy, July 10-14, 2016. (**Invited Paper.**)
- [C-41] G. T. Djordjevic, I. B. Djordjevic, "BER analysis of uncoded and LDPC-coded signal transmission over mixed FSO/WiMAX link," in Proc. *IEEE ICTON 2016*, Paper Tu.B2.1, Trento, Italy, July 10-14, 2016. (**Invited Paper.**)
- [C-42] S. Zhang, F. Yaman, Y.-K. Huang, J. D. Downie, D. Zou, W. A. Wood, A. Zakharian, R. Khrapko, S. Mishra, V. Nazarov, J. Hurley, I. B. Djordjevic, E. Mateo, Y. Inada, "Capacity-Approaching Transmission over 6375 km at Spectral Efficiency of 8.3 bit/s/Hz," in Proceedings *OFC Postdeadline Papers*, Paper Th5C.2, 20–24 March 2016, Anaheim, California, United States.
- [C-43] T. Liu, I. B. Djordjevic, "LDPC-coded BICM-ID based Nonuniform Signaling for Ultra-High-Speed Optical Transport," in Proc. *OFC 2016*, Paper M3A.3, 20-24 March 2016, Anaheim, California, USA.
- [C-44] C. Lin, I. B. Djordjevic, Z. Jia, W. Wang, Yi Cai, "Tandem-turbo-product Nonbinary BICM for Next-generation High-speed Optical Transmission Systems," in Proc. *OFC 2016*, Paper Th1D.5, 20-24 March 2016, Anaheim, California, USA.
- [C-45] D. Zou, I. B. Djordjevic, "FPGA implementation of advanced FEC schemes for intelligent aggregation networks," in Proc. *PhotonicsWest 2016, OPTO, Optical Metro Networks and Short-Haul Systems VIII*, SPIE vol. 9773, pp. 977309-1–977309-7, 13 - 18 February 2016, San Francisco, California United States. (Invited Paper.)
- [C-46] D. Zou, I. B. Djordjevic, "An FPGA design of generalized Low-density parity-check codes for rate-adaptive optical transport networks," In Proc. *SPIE PhotonicsWest 2016, Optical Metro Networks and Short-Haul Systems VIII*, SPIE vol. 9773, pp. 97730M-1–97730M-6, 13 - 18 February 2016, San Francisco, California United States.
- [C-47] X. Sun, I. B. Djordjevic, M. Neifeld, "An adaptation method to improve secret key rates of time-frequency QKD in atmospheric turbulence channels," in Proc. *PhotonicsWest 2015, LASE, Free-Space Laser Communication and Atmospheric Propagation XXVIII*, vol. SPIE 9739, pp. 97390Z-1–97390Z-7, 13 - 18 February 2016, San Francisco, California United States.
- [C-48] V. Ilic, I. B. Djordjevic, F. Küeppers, "On the Daróczy-Tsallis capacities of discrete channels," in Proc. *2nd Int. Electron. Conf. Entropy Appl.*, 15–30 November 2015; Sciforum Electronic Conference Series, vol. 2, 2015, B004; doi:[10.3390/ecea-2-B004](https://doi.org/10.3390/ecea-2-B004) (11 pages)
- [C-49] Z. Qu, I. B. Djordjevic, "Coded Orbital Angular Momentum Based Free-space Optical Transmission in the Presence of Atmospheric Turbulence," in Proc. *OSA Asia Communications and Photonics Conference (ACP) 2015*, Paper AS3D.3, 19 - 23 November 2015, Hong Kong.
- [C-50] T. Liu, I. B. Djordjevic, "LDPC-coded BICM-ID with Nonuniform Signaling for Ultra-High-Speed Optical Transport," in Proc. *OSA Asia Communications and Photonics Conference (ACP) 2015*, Paper AM3F.3, 19 - 23 November 2015, Hong Kong.
- [C-51] I. B. Djordjevic, Z. Qu, "LDPC-coded orbital angular momentum modulation enabling ultra-high-speed transmission over free-space optical links," in Proc. *IEEE Sig. Proc. Soc. Asilomar Conference on Signals, Systems, and Computers*, Paper TP1-6, November 8-11, 2015, Pacific Grove, CA. (Invited Paper.) (4 pages)
- [C-52] T. Liu, I. B. Djordjevic, M. Li, "Multidimensional signal constellation design for channel dominated with nonlinear phase noise," in Proc. *12th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIS 2015*, pp. 133-136, October 14 - 17, 2015, Nis, Serbia.
- [C-53] V. Ilic, T. Liu, I. B. Djordjevic, M. Li, and F. Kupperts, N. Stojanovic, "Optimal signal constellation design for nonlinear chromatic dispersion optical channel," in Proc. *12th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIS 2015*, pp. 129-132, October 14 - 17, 2015, Nis, Serbia.
- [C-54] Z. Qu, I. B. Djordjevic, "Experimental evaluation of LDPC-coded OAM based FSO communication in the presence of atmospheric turbulence," in Proc. *12th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIS 2015*, pp. 117-122, October 14 - 17, 2015, Nis, Serbia. (Invited Paper.)
- [C-55] A. Jenkins, I. Djordjevic, M. Neifeld, "Multi-Mode QKD over a Marine FSO Channel," in Proc. *Frontiers in Optics/Laser Science Conference (FIO/LS) 2015*, Paper FTu3B.3, October 18-22, 2015, San Jose, California, USA. (2 pages)
- [C-56] X. Sun, I. Djordjevic, M. Neifeld, "Secret Key Rates of QKD Systems Over Time-Varying Free-Space Optical Channel," in Proc. *Frontiers in Optics/Laser Science Conference (FIO/LS) 2015*, Paper JW2A.14, October 18-22, 2015, San Jose, California, USA. (2 pages)
- [C-57] I. B. Djordjevic, M. Cvijetic, "Advanced schemes for all-optical computing, optical error correction, and optical signal processing," in Proc. *IEEE ICTON 2015*, Paper We.D5.1, July 5-9, 2015, Budapest, Hungary. (Invited Paper.) (6 pages)
- [C-58] M. Cvijetic, I. B. Djordjevic, "Multidimensional aspects of ultra-high speed optical networking," in Proc. *IEEE ICTON 2015*, July 5-9, 2015, Paper Tu.D1.1, Budapest, Hungary. (Invited Paper.) (4 pages)
- [C-59] T. Liu, I. B. Djordjevic, M. Li, "Signal Constellation Design for Cross-Phase Modulation Dominated Channels," in Proc. *IEEE ICTON 2015*, Paper Mo.B1.2, July 5-9, 2015, Budapest, Hungary. (Invited Paper.) (4 pages)
- [C-60] F. Yaman, S. Zhang, Y.-K. Huang, E. Ip, J. D. Downie, W. A. Wood, A. Zakharian, S. Mishra, J. Hurley, Y. Zhang, I. B. Djordjevic, M.-F. Huang, E. Mateo, K. Nakamura, T. Inoue, Y. Inada, T. Ogata, "First Quasi-Single-Mode Transmission over Transoceanic

- Distance using Few-mode Fibers,” in Proc. *OFC Postdeadline Papers*, Paper Th5C.7, 22-26 March 2015, Los Angeles, CA. (3 pages)
- [C-61] D. Zou, I. B. Djordjevic, “FPGA-based Non-binary QC-LDPC Coding for High-Speed Coherent Optical Transmission,” in Proc. *CLEO 2015*, Paper SW1M.4, 10-15 May 2015, San Jose, CA, USA. (2 pages)
- [C-62] Y. Ren, Z. Wang, P. Liao, L. Li, G. Xie, H. Huang, Z. Zhao, Y. Yan, N. Ahmed, M. Lavery, N. Ashrafi, S. Ashrafi, R. Linquist, M. Tur, I. Djordjevic, M. Neifeld, A. Willner, “400-Gbit/s Free Space Optical Communications Link Over 120-meter Using Multiplexing of 4 Collocated Orbital-Angular-Momentum Beams,” In Proc. *OFC 2015*, Paper M2F.1, 22-26 March 2015, Los Angeles, California, USA. (3 pages)
- [C-63] M. Li, Z. Xiao, F. Yu, N. Stojanovic, I. Djordjevic, X. Shi, L. Li, “Low-Overhead Low-Power-Consumption LDPC-Based FEC Solution for Next-Generation High-Speed Optical Systems,” In Proc. *OFC 2015*, Paper Th3E.2, 22-26 March 2015, Los Angeles, California, USA. (3 pages)
- [C-64] S. Zhang, Y. Zhang, F. Yaman, I. B. Djordjevic, “Optimized signal constellations for ultra-high-speed optical transport (Invited Paper),” in Proc. *SPIE Photonics West 2015, OPTO: Optical Metro Networks and Short-Haul Systems VII*, vol. 9388, pp. 93880F-1–93880F-8, 7 - 12 February 2015, San Francisco, California, United States.
- [C-65] D. Zou, I. B. Djordjevic, “FPGA implementation of high-performance QC-LDPC decoder for optical communications,” in Proc. *SPIE Photonics West 2015, OPTO: Optical Metro Networks and Short-Haul Systems VII*, vol. 9388, pp. 93880P-1–93880P-6, 7 - 12 February 2015, San Francisco, California, United States.
- [C-66] I. B. Djordjevic, T. Liu, “Energy-efficient p^m -ary signaling for ultra-high-speed optical transport (Invited Paper),” in Proc. *SPIE Photonics West 2015, OPTO: Optical Metro Networks and Short-Haul Systems VII*, vol. 9388, pp. 93880J-1–93880J-9, 7 - 12 February 2015, San Francisco, California, United States.
- [C-67] I. B. Djordjevic, Y. Zhang, “Entanglement assisted time-energy QKD employing Franson interferometers and cavity quantum electrodynamics (CQED) principles,” in Proc. *SPIE Photonics West 2015, OPTO: Advances in Photonics of Quantum Computing, Memory, and Communication VIII*, pp. 93770L-1–93770L-8, 7 - 12 February 2015, San Francisco, California, United States.
- [C-68] I. B. Djordjevic, “On the Energy-Efficient Multidimensional Coded Modulation for Optical Transport Networks,” In Proc. *2014 IEEE Online Conference on Green Communications (IEEE Online GreenComm'14)*, 12-14 Nov. 2014, Tucson, AZ. (Invited paper.) (6 pages) [DOI: [10.1109/OnlineGreenCom.2014.7114428](https://doi.org/10.1109/OnlineGreenCom.2014.7114428)]
- [C-69] Y. Zhang, I. B. Djordjevic, “Multilevel Nonbinary LDPC-Coded Modulation for High-Speed Optical Transmissions,” in Proc. *Asia Communications and Photonics Conference (ACP)*, Paper ATH1E.6, 11-14 November 2014, Shanghai, China.
- [C-70] I. B. Djordjevic, “Beyond 1 Pb/s Serial Optical Transport over SMFs based on Orthogonal-Division Multiplexing (ODM),” in Proc. *Frontiers in Optics (FIO) / Laser Science (LS) 2014*, Paper FTH3B.2, 19-23 October 2014, Tucson, Arizona, USA.
- [C-71] S. Zhang, F. Yaman, M.-F. Huang, Y.-K. Huang, Y. Zhang, I. B. Djordjevic, E. Mateo, “40Tb/s Transoceanic Transmission with Span Length of 121km and EDFA-only Amplification,” in Proc. *OECC/ACOFT 2014 Postdeadline Papers*, Paper THPDP1-3, 6-10 July 2014, Melbourne, Australia.
- [C-72] Y. Zhang, I. B. Djordjevic, M. Neifeld, “Efficient quantum key distribution based on pulse-position modulation,” in Proc. *SPIE Security + Defence, Quantum-Physics-Based Information Security*, vol. SPIE 9254, pp. 92540C-1–92540C-7, 22 - 25 September 2014, Amsterdam, Netherlands.
- [C-73] M. Cvijetic, I. B. Djordjevic, “Framework for optimization of characteristics of optical fibers supporting spatial division multiplexing,” in Proc. *IEEE ICTON 2014*, Paper Th.A2.3, Graz, Austria, July 6-10, 2014. (Invited paper.) (4 pages)
- [C-74] Y. Zhang and I. B. Djordjevic, “Generalized PPM-based BB84 QKD Protocol,” in Proc. *IEEE ICTON 2014*, Paper Tu.B1.5, Graz, Austria, July 6-10, 2014. (4 pages)
- [C-75] T. Liu, I. B. Djordjevic, Y. Zhang, and D. Zou, “Optimal Signal Constellation Design for Coherent Optical Channels Dominated by the Nonlinear Phase Noise,” in Proc. *IEEE ICTON 2014*, Paper Tu.C1.2, Graz, Austria, July 6-10, 2014. (4 pages)
- [C-76] I. B. Djordjevic, Y. Zhang, “Photon angular momentum based multidimensional quantum key distribution,” in Proc. *16th International Conference on Transparent Optical Networks (ICTON 2014)*, Paper Tu.B1.2, July 6-10, 2014, Graz, Austria. (Invited paper.) (4 pages)
- [C-77] I. B. Djordjevic, Y. Zhang, “Adaptive nonbinary LDPC coded modulation for optical transport networks,” in Proc. *OECC/ACOFT 2014*, Paper Th12B-1, pp. 1010-1012, 6-10 July 2014, Melbourne, Australia. (Invited paper.)
- [C-78] T. Liu, I. B. Djordjevic, T. Wang, “Optimal Signal Constellation Design for Ultra-High-Speed Optical Transport in the Presence of Phase Noise,” In Proc. *CLEO 2014*, Paper STu3J.7, 8-13 June 2014, San Jose, CA. (2 pages)
- [C-79] I. B. Djordjevic, T. Wang, “On the Generalized LDPC Codes from Multiple Component Codes Suitable for High-Speed Optical Transport,” In Proc. *CLEO 2014*, Paper STu3J.8, 8-13 June 2014, San Jose, CA. (2 pages)
- [C-80] I. B. Djordjevic, A. Jovanovic, Z. Peric, T. Wang, “Optimized Vector-Quantization-Based Signal Constellation Design (OVQ-SCD) for Multidimensional Optical Transport,” In Proc. *CLEO 2014*, Paper STu3J.5, 8-13 June 2014, San Jose, CA. (2 pages)
- [C-81] F. Yaman, S. Zhang, Y.-K. Huang, Y. Zhang, M.-F. Huang, I. B. Djordjevic, E. Mateo, Y. Inada, T. Inoue, T. Ogata, “30.6 Tb/s bidirectional transoceanic transmission over 75x90.9 km fiber spans,” in Proc. *Postdeadline Papers OFC 2014*, Paper Th5B.5, 9-13 March 2014, San Francisco, California, USA.

- [C-82] Y. Zhang, I. B. Djordjevic, "Staircase rate-adaptive LDPC-coded modulation for high-speed intelligent optical transmission," *OFC 2014*, Paper M3A.6, 9-13 March 2014, San Francisco, California, USA.
- [C-83] I. B. Djordjevic, "Advanced coded modulation for ultra-high speed optical transmission," in Proc. *OFC 2014*, Paper W3J.4, 9-13 March 2014, San Francisco, California, USA. (**Tutorial.**) (41 pages)
- [C-84] A. Emsia, M. Malekizandi, D. Briggmann, Q. T. Le, I. B. Djordjevic, F. Küppers, "Experimental demonstration of NG-PON power budget enhancement techniques," in Proc. *SPIE Photonics West 2014, OPTO: Broadband Access Communication Technologies VIII*, vol. 9007, pp. 90070G-1– 90070G-7, 1 - 6 February 2014, San Francisco, California United States.
- [C-85] M. Malekizandi, A. Emsia, D. Briggmann, Q. T. Le, I. B. Djordjevic, and F. Kueppers, "Power budget extension for higher order modulation formats in PONs," in Proc. *SPIE Photonics West 2014, OPTO: Broadband Access Communication Technologies VIII*, vol. 9007, pp. 90070H-1– 90070H-9, 1 - 6 February 2014, San Francisco, California United States.
- [C-86] C. Li, I. B. Djordjevic, M. Luo, Z. He, W. Liu, Q. Yang, X. Xiao, D. Xue, S. Yu, W. Shieh, "Ultra Long-Haul Transmission of a 1-Tb/s LDPC-Coded DFT-S OFDM-8PSK Superchannel over 12,160 km," In Proc. *ACP 13-Postdeadline Papers*, Paper AF2C.2, 12-15 November 2013, Beijing, China. (3 pages)
- [C-87] I. B. Djordjevic, "Multidimensional Optical Transmission," in Proc. *ACP 2103*, Paper AF4C.5, November 12-15, Beijing, China. (**Invited paper.**) (3 pages)
- [C-88] I. B. Djordjevic, "Beyond 100 Tb/s Serial Optical Transport Networks Based on Hybrid Multidimensional LDPC-Coded Modulation," *IEEE TELSIS 2013*, vol. 2, pp. 463 - 468, October 16-19, 2013, Nis, Serbia. (**Invited paper.**)
- [C-89] I. B. Djordjevic, "Advances in error correction coding for high-speed optical transmission," in Proc. *IEEE Photonics Conference 2013 (IPC 2013)*, Paper MG3.1, 8-12 September 2013, Hyatt Regency Bellevue, Washington, USA. (**Invited paper.**) (2 pages)
- [C-90] Y. Zhang, I. B. Djordjevic, "LDPC-Coded TCM-QPSK Optical Transmission Scheme Outperforming LDPC-Coded BPSK," in Proc. *IEEE Photonics Conference 2013 (IPC 2013)*, Paper MG3.2, 8-12 September 2013, Seattle, USA. (2 pages)
- [C-91] A. Emsia, M. Malekizandi, T. Q. Le, I. B. Djordjevic, and F. Kueppers, "1 Tb/s WDM-OFDM-PON Power Budget Extension Techniques," in Proc. *IEEE Photonics Conference 2013 (IPC 2013)*, Paper WG3.3, 8-12 September 2013, Seattle, USA. (2 pages)
- [C-92] Y. Zhang, S. Zhang, I. B. Djordjevic, F. Yaman, T. Wang, "Extending 100G Transatlantic Optical Transmission over Legacy DMF Fibers using Time-Domain Four-Dimensional Nonbinary LDPC-Coded Modulation," In Proc. *ECOC 2013*, Paper P.4.18, 22 - 26 September 2013, London, UK. (3 pages)
- [C-93] I. B. Djordjevic, T. Wang, "Orthogonal Polynomials based Hybrid Coded-Modulation for Multi-Tb/s Optical Transport," in Proc. *CLEO-PR & OECC/PS 2013*, Paper ThR2-5, 30 June - 4 July 2013, Kyoto, Japan. (2 pages)
- [C-94] Y. Zhang, S. Zhang, I. B. Djordjevic, "On the Pragmatic Turbo Equalizer for Optical Communications," in Proc. *CLEO-PR & OECC/PS 2013*, Paper ThR2-4, 30 June - 4 July 2013, Kyoto, Japan.
- [C-95] T. Liu and I. B. Djordjevic, "EXIT Chart Analysis of Optimal Signal Constellation Sets and Symbol Mappings for Block-Interleaved Coded-Modulation Enabling Ultra-High-Speed Optical Transport," in Proc. *IEEE ICTON 2013*, Paper Th.A1.5, June 23 -27, 2013, Cartagena, Spain. (4 pages)
- [C-96] Y. Zhang, I. B. Djordjevic, "Adaptive Coded-Modulation for the Next-Generation Intelligent Optical Transport Networks," in Proc. *IEEE ICTON 2013*, Paper Tu.D4.4, June 23 -27, 2013, Cartagena, Spain. (5 pages)
- [C-97] M. Cvijetic and I. B. Djordjevic, "Energy efficiency aspects of multidimensional elastic optical networking," in Proc. *IEEE ICTON 2013*, Paper We.B4.1, June 23 -27, 2013, Cartagena, Spain. (**Invited paper.**) (4 pages)
- [C-98] I. B. Djordjevic, and M. Cvijetic, "Optical transport exceeding 10 Tb/s based on adaptive LDPC-coded multidimensional spatial-spectral scheme and orthogonal prolate spheroidal wave functions," in Proc. *IEEE ICTON 2013*, Paper We.B1.1, June 23 -27, 2013, Cartagena, Spain. (**Invited paper.**) (5 pages)
- [C-99] M. Cvijetic, I. B. Djordjevic, A. Tanaka, "Quantum communication limits by using multichannel spectral-space scheme and entangled photons in optical fibers," in Proc. *IEEE ICTON 2013*, Paper We.B1.2, June 23 -27, 2013, Cartagena, Spain. (**Invited paper.**) (4 pages)
- [C-100] I. B. Djordjevic, T. Wang, "Rate-Adaptive Irregular QC-LDPC Codes from Pairwise Balanced Designs for Ultra-High-Speed Optical Transport," in Proc. *CLEO 2013*, Paper CM1G.8, San Jose Convention Center, 9-14 June 2013. (2 pages)
- [C-101] D. Zou, T. Liu, I. B. Djordjevic, T. Wang, "Optimum Signal Constellation Design and Mapping Rule for Few-Mode Fiber based LDPC-Coded CO-OFDM," in Proc. *CLEO 2013*, Paper CM1G.7, San Jose Convention Center, 9-14 June 2013. (2 pages)
- [C-102] Y. Ren, Y. Zhang, Y. Yue, N. Bozinovic, G. Xie, H. Huang, M. Tur, P. Kristensen, I. Djordjevic, S. Ramachandran, A. Willner, "Efficient Crosstalk Mitigation of OAM Based 400-Gbit/s QPSK Data Transmission in 1.1-km Vortex Fiber by Using Soft-Decision LDPC codes," in Proc. *CLEO 2013*, Paper CM2G.5, San Jose Convention Center, 9-14 June 2013. (2 pages)
- [C-103] I. B. Djordjevic and Y. Zhang, "Advanced Adaptive Software-Defined Coded Modulation for Ultra-High Speed Optical Transport," In Proc. *Photonics North 2013 (SPIE 8915)*, pp. 89150E-1– 89150E-12, June 3 – 5, 2013, Ottawa, Canada. (**Invited paper.**)
- [C-104] M. Cvijetic, I. B. Djordjevic, "Optical Interconnections Based on Elastic Spatial-Spectral Interworking," in Proc. *IEEE Optical Interconnects Conference*, pp. 70-71, 5 - 8 May 2013, Paper TuP2, Santa Fe, New Mexico. (2 pages)
- [C-105] I. B. Djordjevic and T. Wang, "On the LDPC-Coded Modulation for Ultra-High-Speed Optical Transport in the Presence of Phase Noise," in Proc. *OFC 2013*, Paper no. OM2B.1, March 17-21, 2013, Anaheim, CA. (3 pages)

- [C-106] I. B. Djordjevic, D. Zou, and M. Cvijetic, "Hybrid Multidimensional Dynamic Optical Networking based on Adaptive LDPC-Coded Mode-Multiplexed CO-OFDM," in Proc. *ACP 2012*, Paper no. AS3A.2, 7-10 November 2012, Guangzhou, China. **(Invited Paper)**. (4 pages)
- [C-107] C. Lin, I. B. Djordjevic, D. Zou, M. Arabaci and M. Cvijetic, "Nonbinary LDPC-Coded OFDM over Four/Eight-Mode Fibers with Mode-Dependent Loss," in Proc. *IEEE Photonics Conference 2012*, Paper no. WU3, pp. 598-599, 23-27 Sept. 2012, San Francisco, CA.
- [C-108] T. Liu, I. B. Djordjevic, L. Xu, and T. Wang, "Multidimensional Optimum Signal Constellation Design for Few-Mode Fiber based High-Speed Optical Transport," in Proc. *IEEE Photonics Conference 2012*, Paper no. TuM2, pp. 318-319, 23-27 Sept. 2012, San Francisco, CA.
- [C-109] M. Arabaci and I. B. Djordjevic, "Nonbinary LDPC-coded modulation for multi-Tb/s optical transport," in Proc. *IEEE Photonics Conference*, Paper WM1, pp. 526-527, 23-27 Sept. 2012, San Francisco, CA. **(Invited Paper.)**
- [C-110] Y. Ren, H. Huang, Y. Zhang, Y. Yue, Y. Yan, N. Ahmed, I. Djordjevic, S. Dolinar, and A. Willner, "Experimental Demonstration of LDPC Coded Free-Space, Space-Division-Multiplexed Systems using Orbital Angular Momentum Modes," in *European Conference and Exhibition on Optical Communication*, OSA Technical Digest (online) (Optical Society of America, 2012), paper Th.2.D.4.
- [C-111] I. B. Djordjevic, J. Anguita, "Heterogeneous optical networking using hybrid orthogonal OAM multimode modulation," in Proc. *SPIE Optical Engineering + Applications, Laser Communication and Propagation through the Atmosphere and Oceans*, vol. 8517, pp. 85170Z-1–85170Z-8, 12-16 August 2012, San Diego, CA, United States.
- [C-112] I. B. Djordjevic, Y. Zhang, X. Gao, "Quantum channel capacity for OAM-based free-space optical communications," in Proc. *SPIE Optical Engineering + Applications, Quantum Communications and Quantum Imaging X*, vol. 8518, pp. 851809-1– 851809-6, 12-16 August 2012, San Diego, CA, United States.
- [C-113] I. B. Djordjevic, "Orbital angular momentum modulation for fiber-optics communication," in Proc. *17th OptoElectronics and Communications Conference (OECC 2012)*, Paper 6B2-3, pp. 753-754, July 2-6, 2012; Busan, Korea. **(Invited Paper.)**
- [C-114] I. B. Djordjevic, T. Liu and M. Cvijetic, "Optimum Signal Constellation Design for Ultra-High-Speed Optical Transport Networks," in Proc. *IEEE 14th International Conference on Transparent Optical Networks (ICTON 2012)*, Paper We.B1.1, July 2 - 5, 2012, Coventry, England, UK. **(Invited Paper.)** (7 pages)
- [C-115] M. Cvijetic, I. B. Djordjevic, and N. Cvijetic, "Spectral-Spatial Concept of Hierarchical and Elastic Optical Networking," in Proc. *IEEE 14th International Conference on Transparent Optical Networks (ICTON 2012)*, Paper Mo.C1.3, July 2 - 5, 2012, Coventry, England, UK. **(Invited Paper.)** (4 pages)
- [C-116] M. Cvijetic, I. B. Djordjevic, N. Cvijetic, "Multidimensional Elastic Routing for Next Generation Optical Networks," in Proc. *IEEE Conference on High Performance Switching and Routing 2012*, pp. 198 – 203, Belgrade, Serbia, June 24 - 27, 2012.
- [C-117] D. Zou, I. B. Djordjevic, "Beyond 1Tb/s Superchannel Optical Transmission based on Polarization Multiplexed Coded-OFDM over 2300 km of SSMF," in Proc. *2012 Signal Processing in Photonics Communications (SPPCOM)*, Paper SpTu2A.6, 19–21 June 2012, Colorado Springs, Colorado, USA. (2 pages)
- [C-118] J. Zhang, I. B. Djordjevic, "Three-Dimensional Spherical Signal Constellation for Few-Mode Fiber based High-Speed Optical Transmission," in Proc. *CLEO 2012*, Paper no. CF3I.5, San Jose, CA, 6-11 May 2012. (2 pages)
- [C-119] M. Arabaci, I. B. Djordjevic, L. Xu, T. Wang, "Hybrid LDPC-Coded Modulation Schemes for Optical Communication Systems," in Proc. *CLEO 2012*, Paper no. CTh3C.3, San Jose, CA, 6-11 May 2012. (2 pages)
- [C-120] D. Zou, C. Lin, I. B. Djordjevic, "LDPC-Coded Mode-Multiplexed CO-OFDM over 1000 km of Few-Mode Fiber," in Proc. *CLEO 2012*, Paper no. CF3I.3, San Jose, CA, 6-11 May 2012. (2 pages)
- [C-121] T. Liu, I. B. Djordjevic, L. Xu, T. Wang, "Feedback Channel Capacity Inspired Optimum Signal Constellation Design for High-Speed Optical Transmission," in Proc. *CLEO 2012*, Paper no. CTh3C.2, San Jose, CA, 6-11 May 2012. (2 pages)
- [C-122] S. Zhang, M.-F. Huang, F. Yaman, E. Mateo, D. Qian, Y. Zhang, L. Xu, Y. Shao, I. Djordjevic, T. Wang, Y. Inada, T. Inoue, T. Ogata, Y. Aoki, "40x117.6 Gb/s PDM-16QAM OFDM Transmission over 10,181 km with Soft-Decision LDPC Coding and Nonlinearity Compensation," In Proc. *OFC 2012 Postdeadline Papers*, Paper no. PDP5C.4, March 6-8, 2012, Los Angeles, CA, USA. (3 pages)
- [C-123] I. B. Djordjevic, T. Liu, L. Xu, T. Wang, "Optimum Signal Constellation Design for High-Speed Optical Transmission," in Proc. *OFC/NFOEC 2012*, Paper no. OW3H.2, March 6-8, 2012, Los Angeles, CA, USA. (3 pages)
- [C-124] J. Zhang, I. B. Djordjevic, "Optimized Four-Dimensional Mapping for High-Speed Optical Communication Systems," in Proc. *OFC/NFOEC 2012*, Paper no. OW1H.2, March 6-8, 2012, Los Angeles, CA, USA. (3 pages)
- [C-125] Y. Zhang, M. Arabaci, I. B. Djordjevic, "Rate-Adaptive Four-Dimensional Nonbinary LDPC-Coded Modulation for Long-Haul Optical Transport Networks," in Proc. *OFC/NFOEC 2012*, Paper no. JW2A.46, March 6-8, 2012, Los Angeles, CA, USA. (3 pages)
- [C-126] Z. He, I. B. Djordjevic, W. Liu, M. Luo, Q. Yang, Z. Yang, S. Yu, B. Huang, N. Chi, W. Shieh, "Comparison of Various Bandwidth-Efficient LDPC Coding Schemes for Tb/s Superchannel Long-haul Transmission," in Proc. *OFC/NFOEC 2012*, Paper no. JW2A.43, March 6-8, 2012, Los Angeles, CA, USA. (3 pages)

- [C-127] I. B. Djordjevic, "Energy-Efficient Hybrid Coded Modulations Enabling Terabit Optical Ethernet," in Proc. *Photonics West 2012, Optical Metro Networks and Short-Haul Systems IV*, vol. 8283, pp. 828304-1–828304-16, 21 - 26 January 2012, The Moscone Center, San Francisco, California, USA. (**Invited paper.**)
- [C-128] I. B. Djordjevic, J. A. Anguita, and B. Vasic, "Energy-Efficient Free-Space Optical Communication by Coded OAM Modulation," in Proc. *2011 IEEE Global Telecommunications Conference (GLOBECOM 2011)*, pp. 1-5, 5-9 December, Houston, Texas, USA. [URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&number=6133703&isnumber=6133457>]
- [C-129] I. B. Djordjevic, "Coding and Modulation Techniques Enabling Multi-Tb/s Optical Ethernet," in Proc. *2011 IEEE Photonics Conference*, Paper no. MW1, pp. 171 - 172, 9 - 13 October 2011 at the Marriott Crystal Gateway in Arlington, VA, USA. (**Invited paper.**)
- [C-130] I. B. Djordjevic, L. Xu and T. Wang, "Energy-Efficient Coded-Modulation for High-Speed Optical Communication based on Statistical Physics Concepts," in Proc. *2011 IEEE Photonics Conference*, Paper no. MU2, pp. 157-158, 9 - 13 October 2011 at the Marriott Crystal Gateway in Arlington, VA, USA.
- [C-131] I. B. Djordjevic, "Spatial-Domain-Based Energy-Efficient Optical Communications and Networks," in Proc. *2011 IEEE Photonics Conference*, Paper no. TuU2, pp. 363-364, 9 - 13 October 2011 at the Marriott Crystal Gateway in Arlington, VA, USA.
- [C-132] M. Arabaci, I. B. Djordjevic, "Polarization-Multiplexed Nonbinary LDPC-Coded Modulation with Optimal Signal Constellations," in Proc. *2011 IEEE Photonics Conference*, Paper no. MU4, pp. 161-162, 9 - 13 October 2011 at the Marriott Crystal Gateway in Arlington, VA, USA.
- [C-133] X. Hong, M. Arabaci, I. B. Djordjevic, "An Experimental Investigation of High-Rate Nonbinary Quasi-Cyclic LDPC-Coded Modulation for Coherent Optical Communication," in Proc. *2011 IEEE Photonics Conference*, Paper no. MU3, pp. 159-160, 9 - 13 October 2011 at the Marriott Crystal Gateway in Arlington, VA, USA.
- [C-134] L. Xu, I. B. Djordjevic, and T. Wang, "Turbo Equalization for Mitigation of Linear and Nonlinear Impairments in High-Speed Optical Transmission Systems," in Proc. *2011 IEEE Photonics Conference*, Paper no. ThT1, pp. 825-826, 9 - 13 October 2011 at the Marriott Crystal Gateway in Arlington, VA, USA. (**Invited Paper.**)
- [C-135] M. Arabaci and I. B. Djordjevic, "Binary and nonbinary LDPC-coded modulations for generalized fading channels," in Proc. *IEEE TELSIKS 2011*, pp. 148-151, October 5-8, 2011, Nis, Serbia.
- [C-136] S. Zhang, M. Arabaci, F. Yaman, I. B. Djordjevic, L. Xu, T. Wang, Y. Inada, T. Ogata, Y. Aoki, "Experimental demonstration of non-binary LDPC coded modulation for ultra-long-haul transmission systems," in Proc. *ECOC 2011*, Paper no. Tu.3.B.5, 18-22 September 2011, Geneva, Switzerland. (3 pages)
- [C-137] I. B. Djordjevic, J. Anguita, and B. Vasic, "On the LDPC-coded OAM Modulation for Communication over Atmospheric Turbulence Channels," in Proc. *SPIE 2011 Optics+ Photonics, Optical Engineering + Applications, Free-Space and Atmospheric Laser Communications XI*, vol. 8162, pp. 81620G-1–81620G-9, 21-25 August 2011, San Diego Convention Center, San Diego, California, USA.
- [C-138] I. B. Djordjevic, "LDPC Coded Modulation for Terabit Optical Ethernet," in Proc. *IEEE Photon. Soc. Summer Topicals 2011*, Paper no. MC4.1, pp. 119-120, 18-20 July 2011, Montreal, Canada. (**Invited paper.**)
- [C-139] I. B. Djordjevic, "On the Implementation of Soft Decision Decoders for High-Speed Optical Transmission," in Proc. *OSA Signal Processing in Photonics Communications (SPPCom)*, Paper no. SPWB1, June 12-16 2011, The Westin Harbour Castle, Toronto, Canada. (**Invited paper.**) (3 pages)
- [C-140] M. Arabaci and I. B. Djordjevic, "Experimental evaluation of high-speed optical fiber communication using nonbinary LDPC coded modulation with layered decoding," in Proc. *13th International Conference on Transparent Optical Networks (ICTON 2011)*, Paper Th.B3.4, 26-30 June 2011, Stockholm, Sweden. (4 pages)
- [C-141] I. B. Djordjevic, "Coded Orbital Angular Momentum (OAM) Modulation based Heterogeneous Optical Networking," in Proc. *13th International Conference on Transparent Optical Networks (ICTON 2011)*, Paper We.C1.4, 26-30 June 2011, Stockholm, Sweden. (5 pages)
- [C-142] D. Zou, I. B. Djordjevic, "Multi-Tb/s Optical Transmission based on Polarization-Multiplexed LDPC-coded Multi-band OFDM," in Proc. *13th International Conference on Transparent Optical Networks (ICTON 2011)*, Paper Th.B3.3, 26-30 June 2011, Stockholm, Sweden. (4 pages)
- [C-143] Y. Zhang, I. B. Djordjevic, "High-Speed Long-Haul Optical Transmission using Four-Dimensional LDPC-Coded Modulation," in Proc. *13th International Conference on Transparent Optical Networks (ICTON 2011)*, Paper Th.B3.2, 26-30 June 2011, Stockholm, Sweden. (4 pages)
- [C-144] I. B. Djordjevic, "LDPC-coded OAM modulation and multiplexing for deep-space and near-Earth optical communications," in Proc. *IEEE ICSOS 2011*, pp. 205-213, May 11-13, 2011, Santa Monica, CA, USA. (**Invited paper.**)
- [C-145] I. B. Djordjevic, L. Xu, T. Wang, "On the Reverse Concatenated Coded-Modulation for Ultra-High-Speed Optical Transport," in Proc. *OFC/NFOEC 2011*, Paper No. OWF3, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)
- [C-146] I. B. Djordjevic, L. Xu, T. Wang, "Coded Multidimensional Pulse Amplitude Modulation for Ultra-high-speed Optical Transmission," in Proc. *OFC/NFOEC 2011*, Paper No. JThA041, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)

- [C-147] J. Zhang, I. B. Djordjevic, "Optimum Signal Constellation Design for Rotationally Symmetric Optical Channel with Coherent Detection," in Proc. OFC/NFOEC 2011, Paper No. OThO3, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)
- [C-148] M. Arabaci, I. B. Djordjevic, "Three-Dimensional Subcarrier-Multiplexed Nonbinary-LDPC-Coded Modulation Schemes Enabling Ultra High Speed Optical Communications," in Proc. OFC/NFOEC 2011, Paper No. OWF5, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)
- [C-149] M. Arabaci, I. B. Djordjevic, "Layered Decoding of Nonbinary LDPC Codes Suitable for High-Speed Optical Communications," in Proc. OFC/NFOEC 2011, Paper No. OWF2, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)
- [C-150] J. Fu, M. Arabaci, I. B. Djordjevic, Y. Zhang, L. Xu, T. Wang, "First Experimental Demonstration of Nonbinary LDPC-Coded Modulation Suitable for High-Speed Optical Communications," in Proc. OFC/NFOEC 2011, Paper No. OWF4, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)
- [C-151] Q. Yang, Z. He, W. Liu, Z. Yang, S. Yu, W. Shieh, I. B. Djordjevic, "1-Tb/s Large Girth LDPC-Coded Coherent Optical OFDM Transmission over 1040-km Standard Single-Mode Fiber," in Proc. OFC/NFOEC 2011, Paper No. JThA035, Los Angeles Convention Center, Los Angeles, CA, USA, March 6-10, 2011. (3 pages)
- [C-152] I. B. Djordjevic, "Orbital angular momentum (OAM) based LDPC-coded deep-space optical communication," in Proc. *Photonics West 2011, Free-Space Laser Communication Technologies XXIII*, vol. 7923, pp. 792306-1- 792306-8, 22 - 27 January 2011, The Moscone Center, San Francisco, CA, USA. (**Invited paper.**)
- [C-153] I. B. Djordjevic, "Four-dimensional coded optical OFDM for high-speed metro networks," in Proc. *Photonics West 2011, Optical Metro Networks and Short-Haul Systems III*, vol. 7959, pp. 795903-1–795903-9, 22 - 27 January 2011, The Moscone Center, San Francisco, CA, USA. (**Invited paper.**)
- [C-154] I. B. Djordjevic, "Photonic switching for reliable nanoscale three-dimensional integrated network-on-chips," in Proc. *Photonics West 2011, Optoelectronic Interconnects and Component Integration XI*, vol. 7944, pp. 79440U-1–79440U-8, 22 - 27 January 2011, The Moscone Center, San Francisco, CA, USA.
- [C-155] I. B. Djordjevic, "Cavity quantum electrodynamics based quantum low-density parity-check encoders and decoders," in Proc. *Photonics West 2011, Advances in Photonics of Quantum Computing, Memory, and Communication IV*, vol. 7948, pp. 794813-1–794813-8, 22 - 27 January 2011, The Moscone Center, San Francisco, CA, USA.
- [C-156] J. Zhang, I. B. Djordjevic, "Optimum signal constellations for high-speed optical metro networks and beyond," in Proc. *Photonics West 2011, Optical Metro Networks and Short-Haul Systems III*, vol. 7959, pp. 795904-1–795904-8, 22 - 27 January 2011, The Moscone Center, San Francisco, CA, USA.
- [C-157] I. B. Djordjevic, L. Xu, L. L. Minkov, T. Wang, and S. Zhang, "Polarization-Multiplexed LDPC-Coded QAM Robust to I-Q Imbalance and Polarization Offset," in Proc. *SPIE-OSA-IEEE Asia Communications & Photonics Conference & Exhibition (ACP 2010)*, pp. 564-565 (IEEE), Optical Transmission Systems, Switching, and Subsystems VIII, vol. 7988, pp. 79881F-1–79881F-6 (SPIE), 8 - 12 December 2010, Shanghai, China.
- [C-158] I. B. Djordjevic, Lei Xu and T. Wang, "On the Reduced-Complexity of LDPC Decoders for Beyond 400 Gb/s Serial Optical Transmission," in Proc. *SPIE-OSA-IEEE Asia Communications & Photonics Conference & Exhibition (ACP 2010)*, pp. 566-567 (IEEE), Optical Transmission Systems, Switching, and Subsystems VIII, vol. 7988, pp. 79881G-1–79881G-6 (SPIE), 8 - 12 December 2010, Shanghai, China.
- [C-159] H. G. Batshon, Y. Cai, I. B. Djordjevic, "Advanced FEC for beyond 100G," *SPIE-OSA-IEEE Asia Communications & Photonics Conference & Exhibition (ACP 2010)*, Workshop III: 100-Gb/s and Beyond - Exploring the Ultimate Optical Fiber Channel Capacity, 8 - 12 December 2010, Shanghai, China. (**Invited Workshop Presentation.**)
- [C-160] H. G. Bathson, I. B. Djordjevic, T. Schmidt, "Subcarrier-Multiplexed Four-Dimensional LDPC Coded Modulation for High Speed Optical Transmission Systems," in Proc. *IEEE Photonics Society 23rd Annual Meeting*, pp. 399-400, 7 - 11 November 2010, Denver, CO, USA.
- [C-161] M. Arabaci, H. G. Batshon, I. B. Djordjevic, T. Schmidt, R. Saunders, R. Marcoccia, "Three-Dimensional Nonbinary-LDPC-Coded Modulation Schemes for High Speed Optical Fiber Transmission," in Proc. *IEEE Photonics Society 23rd Annual Meeting*, pp. 154-155, 7 - 11 November 2010, Denver, CO, USA.
- [C-162] I. B. Djordjevic, "Orbital Angular Momentum (OAM) based LDPC-Coded Free-Space Optical Communication," in Proc. *IEEE Photonics Society 23rd Annual Meeting*, pp. 502-503, 7 - 11 November 2010, Denver, CO, USA. (**Invited paper.**)
- [C-163] L. Xu, I. B. Djordjevic, T. Wang, "Digital coherent communication and advanced coding technologies for ultra-long-haul optical transmissions," in Proc. *9th International Conference on Optical Communications and Networks (ICOON 2010)*, pp. 227-229, October 24-27, 2010, Nanjing, China. (**Invited paper.**)
- [C-164] I. B. Djordjevic, H. G. Batshon, "Next generation 400 Gb/s transmission," in Proc. *2010 Frontiers in Optics (FiO)/Laser Science XXVI (LS) Conference*, October 24-28, 2010, Rochester, NY, USA, Paper no. FWI3. (**Invited paper.**) (2 pages)
- [C-165] J. Zhang, I. B. Djordjevic, H. G. Batshon, S. Jian, "Capacity achieving signal constellation diagram of fiber-optic channel," in Proc. *2010 Frontiers in Optics (FiO)/Laser Science XXVI (LS) Conference*, October 24-28, 2010, Rochester, NY, USA, Paper no. JTUA32. (2 pages)

- [C-166] I. B. Djordjevic, H. G. Batshon, L. Xu, and T. Wang, "Modified progressive edge-growth algorithm based LDPC coded-modulation for 400 Gb/s optical transport," in Proc. *2010 IEEE Photonics Society Summer Topical Meetings*, Paper WA2. 4, pp. 52-53, 19-21 July 2010, Playa del Carmen, Riviera Maya, Mexico.
- [C-167] M. Arabaci, I. B. Djordjevic, T. Schmidt, R. Saunders, R. M. Marcocchia, "Rate-adaptive nonbinary-LDPC-coded modulation with backpropagation for long-haul optical transport networks," in Proc. *12th International Conference on Transparent Optical Networks (ICTON 2010)*, June 27 - July 1, 2010, Munich, Germany, Paper no. We.D1.5. (4 pages)
- [C-168] I. B. Djordjevic, H. G. Batshon, "Generalized Hybrid Subcarrier/Amplitude/Phase/Polarization LDPC-coded Modulation based FSO Networking," in Proc. *12th IEEE International Conference on Transparent Optical Networks (ICTON 2010)*, June 27 - July 1, 2010, Munich, Germany, Paper no. Th.B3.4. (4 pages).
- [C-169] J. Zhang, I. B. Djordjevic, H. G. Batshon, S. S. Jian, "Determination of channel capacity and optimum source distribution of fiber-Optic channel," in Proc. *12th IEEE International Conference on Transparent Optical Networks (ICTON 2010)*, June 27 - July 1, 2010, Munich, Germany, Paper no. Th.A1.7. (4 pages)
- [C-170] L. Xu, T. Wang, I. B. Djordjevic, Y. Inada, T. Ogata, "High bit rate multi-level modulation & coding technologies for 100 Gb/s submarine DWDM optical communications," in Proc. *SubOptic 2010, 7th International Conference & Convention on Undersea Telecommunications*, Paper no. SD 04, 11-14 May 2010, Yokohama, Japan.
- [C-171] I. B. Djordjevic, "Integrated optics implementation of universal quantum gates, Bell states preparation circuit, quantum relay and quantum LDPC decoders," in Proc. *15th European Conference on Integrated Optics*, Paper no. FrJB2, 7-9 April 2010, Cambridge, UK. (2 pages)
- [C-172] I. B. Djordjevic, H. G. Batshon, Lei Xu and T. Wang, "Coded polarization-multiplexed iterative polar modulation (PM-IPM) for beyond 400 Gb/s serial optical transmission," in Proc. *OFC/NFOEC 2010*, Paper No. OMK2, San Diego, CA, March 21-25, 2010. (3 pages)
- [C-173] I. B. Djordjevic, "Ultimate information capacity of fiber optic networks," in Proc. *SPIE Photonics West 2010, OPTO: Optical Communications: Systems and Subsystems, Optical Metro Networks and Short-Haul Systems II*, vol. 7621, pp. 76210K-1–76210K-14, San Francisco, California, USA. (**Invited paper.**)
- [C-174] H. G. Batshon, I. B. Djordjevic, "Capacity achieving modulation format for high-speed optical networks," in Proc. *SPIE Photonics West 2010, OPTO: Optical Communications: Systems and Subsystems, Optical Metro Networks and Short-Haul Systems II*, vol. 7621, pp. 76210M-1–76210M-8, 23-28 January 2010, San Francisco, California, USA.
- [C-175] M. Arabaci, I. B. Djordjevic, R. Saunders, R. Marcocchia, "Non-binary LDPC-coded modulation for high-speed optical metro networks with back propagation," in Proc. *SPIE Photonics West 2010, OPTO: Optical Communications: Systems and Subsystems, Optical Metro Networks and Short-Haul Systems II*, vol. 7621, pp. 76210I-1–76210I-9, 23-28 January 2010, San Francisco, California, USA.
- [C-176] L. L. Minkov, I. B. Djordjevic, "Experimental demonstration of simultaneous compensation of polarization mode dispersion and fiber nonlinearities by LDPC-coded turbo equalization," in Proc. *SPIE Photonics West 2010, OPTO: Optical Communications: Systems and Subsystems, Optical Metro Networks and Short-Haul Systems II*, vol. 7621, pp. 76210O-1–76210O-11, 23-28 January 2010, San Francisco, California, USA.
- [C-177] I. B. Djordjevic, Lei Xu and T. Wang, "On the channel capacity of multilevel modulation schemes with coherent detection," in Proc. *SPIE-OSA-IEEE Asia Communications and Photonics Conference and Exhibition (ACP) 2009*, Paper ThC4 (OSA), Optical Transmission Systems, Switching, and Subsystems VII, vol. 7632, pp. 76320W-1–76320W-9 (SPIE), November 2-6, 2009, Shanghai, China.
- [C-178] I. B. Djordjevic, Lei Xu and T. Wang, "Adaptive LDPC-coded polarization multiplexed coherent optical OFDM in optically-routed networks," in Proc. *Asia Communications and Photonics Conference and Exhibition (ACP) 2009*, Paper ThF3, November 2-6, 2009, Shanghai, China. (2 pages)
- [C-179] I. B. Djordjevic, L. Xu, T. Wang, "Beyond 100 Gb/s Transmission over Graded-Index Plastic Optical Fiber (GI-POF) Links," in Proc. *2009 Frontiers in Optics (FiO)/Laser Science XXV (LS) Conference*, October 11-15, 2009, San Jose, California, USA, Paper no. FTuP4. (2 pages)
- [C-180] I. B. Djordjevic, G. T. Djordjevic, "Adaptive Modulation and Coding for Generalized Fading Channels," in Proc. *IEEE TELSIS 2009*, pp. 418-422, October 7-9, 2009, Nis, Serbia.
- [C-181] I. B. Djordjevic, Lei Xu and T. Wang, "Multidimensional Turbo Product and Generalized LDPC Codes with Component RS Codes Suitable for use in Beyond 100 Gb/s Optical Transmission," *IEEE TELSIS 2009*, pp. 402-405, October 7-9, 2009, Nis, Serbia.
- [C-182] M. Arabaci, I. B. Djordjevic, R. Saunders, R. Marcocchia, "Non-binary Quasi-Cyclic LDPC-Coded Modulation for Beyond 100 Gb/s Optical Transmission," in Proc. *22nd Annual Meeting of the IEEE Photonics Society*, Paper WE4, pp. 428-429, 4 - 8 October 2009, Belek-Antalya, Turkey.
- [C-183] I. B. Djordjevic, G. T. Djordjevic, "On the High-Speed Communication over Hybrid Free-Space Optical (FSO)-Wireless Fading Channels," in Proc. *22nd Annual Meeting of the IEEE Photonics Society*, Paper ThAA3, pp. 833-834, 4 - 8 October 2009, Belek-Antalya, Turkey.
- [C-184] I. B. Djordjevic, L. Xu, T. Wang, "Adaptive LDPC-Coded OFDM for Radio-Over-Fiber Technologies," in Proc. *22nd Annual Meeting of the IEEE Photonics Society*, Paper No. WG 5, pp. 448-449, 4 - 8 October 2009, Belek-Antalya, Turkey.

- [C-185] H. G. Batshon, I. B. Djordjevic, "Hybrid Amplitude/Phase/Polarization Coded Modulation for 100 Gb/s Optical Transmission and Beyond," in Proc. *22nd Annual Meeting of the IEEE Photonics Society*, Paper ThE4, pp. 644-645, 4 - 8 October 2009, Belek-Antalya, Turkey.
- [C-186] L. L. Minkov, I. B. Djordjevic, Lei Xu and T. Wang, "Polarization-Multiplexed Multilevel LDPC-Coded Modulation for Optical Communication Systems," in Proc. *35th European Conference and Exhibition on Optical Communication - ECOC 2009*, Paper P4.23, 20-24 September, 2009, Vienna, Austria. (2 pages)
- [C-187] I. B. Djordjevic, H. G. Batshon, L. Xu, T. Wang, "Beyond 100 Gb/s Transmission over Graded-Index Plastic Optical Fibers based on LDPC-Coded OFDM," in Proc. *The 18th International Conference on Plastic Optical Fibers*, September 9-11, 2009, Dockside, Cockle Bay Wharf, on Darling Harbour, Sydney, Australia, Paper no. 97.
- [C-188] I. B. Djordjevic, "Adaptive Modulation and Coding for Communication over the Atmospheric Turbulence Channels," in Proc. *IEEE Photonics Society Summer Topicals 2009*, Paper no. TuD3. 3, pp. 143-144, 20-22 July 2009, Newport Beach, California.
- [C-189] I. B. Djordjevic, "Rate-adaptive LDPC-coded multilevel modulation with coherent detection for high-speed optical transmission," in Proc. *IEEE Photonics Society Summer Topicals 2009*, Paper no. WC1. 2, pp. 109 - 110, 20-22 July 2009, Newport Beach, California.
- [C-190] H. G. Batshon, I. B. Djordjevic, L. Xu, T. Wang, "Multi-Dimensional LDPC-Coded Modulation for High-Speed Optical Communication Systems," in Proc. *IEEE Photonics Society Summer Topicals 2009*, Paper no. WC1. 3, pp. 111 - 112, 20-22 July 2009, Newport Beach, California.
- [C-191] M. Arabaci, I. B. Djordjevic, R. Saunders, and R. M. Marcoccia, "Rate-Adaptive Non-binary-LDPC-Coded Polarization-Multiplexed Multilevel Modulation with Coherent Detection for Optically-Routed Networks," in Proc. *11th International Conference on Transparent Optical Networks (ICTON 2009)*, Paper no. Tu.B2.2, June 28 2009-July 2 2009, Azores, Portugal. (4 pages)
- [C-192] M. Arabaci, I. B. Djordjevic, R. Saunders, R. Marcoccia, "Regular Non-binary Quasi-Cyclic LDPC Codes for High-Rate Applications," in Proc. *IWCMC 2009 Communication and Information Theory Symposium*, pp. 764-769, 21-24 June 2009, Leipzig, Germany.
- [C-193] G. T. Djordjevic, I. B. Djordjevic, and G. K. Karagiannidis, "On the Impact of Imperfect Cophasing in Uncoded and LDPC-Coded EGC Receivers over Generalized Fading Channels," in Proc. *2009 IEEE Wireless Communications and Networking Conference (WCNC 2009)*, Paper no. PHY 3.5, 5-8 April, 2009, Budapest, Hungary. (6 pages)
- [C-194] B. A. Khawaja, I. Djordjevic and M. J. Cryan, "A Millimeter Wave Phase Shifter Using A Wireless Hybrid Mode Locked Laser," in Proc. *OFC/NFOEC 2009*, Paper No. OTuM5, San Diego, CA, March 22-26, 2009. (3 pages)
- [C-195] M. Arabaci, I. B. Djordjevic, R. Saunders, R. Marcoccia, "A Class of Non-Binary Regular Girth-8 LDPC Codes for Optical Communication Channels," in Proc. *OFC/NFOEC 2009*, Paper No. JThA38, San Diego, CA, March 22-26, 2009. (3 pages)
- [C-196] M. Arabaci, and I. B. Djordjevic, "An Alternative FPGA Implementation of Decoders for Quasi-Cyclic LDPC Codes," in Proc. *TELFOR 2008*, pp. 351-354, November 2008.
- [C-197] I. B. Djordjevic, L. Xu, and T. Wang, "PMD Compensation in Multilevel Coded-Modulation Schemes Using BLAST Algorithm," in Proc. *The 21st Annual Meeting of the IEEE Lasers & Electro-Optics Society*, Newport Beach, CA, 9-13 November 2008, Paper No. TuP 2. (2 pages)
- [C-198] I. B. Djordjevic, "Coding for Free-Space Optical Communications," in Proc. *The 21st Annual Meeting of the IEEE Lasers & Electro-Optics Society*, Newport Beach, CA, 9-13 November 2008, Paper no. ThAA 1. (**Invited paper.**) (2 pages)
- [C-199] L. Xu, J. Yu, D. Qian, T. Wang, H. Batshon, and I. Djordjevic, "Advanced Modulation and Coding Technologies for Ultra-High-Speed Optical Communications," in Proc. *SPIE APOC 2008, Optical Transmission, Switching, and Subsystems VI*, vol. 7136, pp. 7136J-1-7136J-8, 26 - 30 October 2008, Hangzhou, China. (**Invited paper.**)
- [C-200] I. B. Djordjevic, L. Xu, and T. Wang, "LDPC Codes and Stochastic Decoding for Beyond 100 Gb/s Optical Transmission," in Proc. *ECOC 2008*, Paper No. P.4.04, 21-25 September 2008, Brussels, Belgium. (2 pages)
- [C-201] I. B. Djordjevic, L. Xu, and T. Wang, "Generalized LDPC Codes with Component Reed-Solomon Codes for Beyond 100 Gb/s Optical Transmission," in Proc. *IEEE LEOS Summer Topicals 2008, Next Generation Transceiver Technology for Long Haul Communications*, pp. 221-222, 21-23 July 2008, Acapulco, Mexico. (2 pages)
- [C-202] I. B. Djordjevic, and H. G. Batshon, "Beyond 100-Gb/s Optical Transmission Based on Coded Modulation and Coherent Detection," in *Coherent Optical Technologies and Applications/Integrated Photonics and Nanophotonics Research and Applications/Quantum Entanglement and Decoherence: 3rd International Conference on Quantum Information/Slow and Fast Light on CD-ROM* (The Optical Society, Washington, DC, 2008), Paper CWC2, 13-16 July 2008, Boston, Massachusetts, United States. (**Invited paper.**) (2 pages)
- [C-203] I. B. Djordjevic, L. Xu, T. Wang, and M. Cvijetic, "Large Girth Low-Density Parity-Check Codes for Long-Haul High-Speed Optical Communications," in Proc. *OFC/NFOEC 2008*, San Diego, CA, Feb. 24-28 2008, Paper No. JWA53. (3 pages)
- [C-204] I. B. Djordjevic, L. Xu, and T. Wang, "PMD Compensation in Multilevel Coded-Modulation Schemes with Coherent Detection using Alamouti-Type Polarization-Time Coding," in Proc. *IEEE LEOS Summer Topicals 2008, Coherent Optical Communications Systems*, pp. 103-104, July 2008.

- [C-205] I. B. Djordjevic, "Mitigation of Linear and Nonlinear Impairments in High-Speed Optical Networks by Using LDPC-Coded Turbo Equalization," in Proc. *IEEE LEOS Summer Topicals 2008, Mitigating Channel Degrading Effects*, pp. 155-156, July 2008. **(Invited paper.)**
- [C-206] L. L. Minkov, I. B. Djordjevic, H. G. Batshon, Lei Xu, T. Wang, M. Cvijetic, and F. H. Kueppers, "Experimental Evaluation of High-Rate LDPC Codes for PMD Compensation by Turbo Equalization," in Proc. *OFC/NFOEC 2008*, San Diego, CA, Feb. 24-28 2008, Paper no. JThA59. (3 pages)
- [C-207] I. B. Djordjevic, S. Denic, J. Anguita, B. Vasic, and M. A. Neifeld, "LDPC-Coded MIMO Optical Communication over the Atmospheric Turbulence Channel," in Proc. *Globecom 2007*, Paper No. F02-4, pp. 2220 - 2225, 26-30 November 2007 - Washington, D.C.
- [C-208] B. Z. Nikolic, G. T. Djordjevic, I. B. Djordjevic, and M. C. Stefanovic, "Coherent Detection of MPSK Signals in the Presence of Intensity Noise and Laser Phase Noise," in Proc. *15th Telecommunication Forum (TELFOR 2007)*, pp. 276-279, Belgrade, Serbia, Nov. 2007.
- [C-209] I. B. Djordjevic, "LDPC-Coded Optical Communication over the Atmospheric Turbulence Channel," in Proc. *41st Asilomar Conference on Signals, Systems, and Computers*, pp. 1903-1909, Nov. 4-7, 2007. **(Invited paper.)**
- [C-210] I. B. Djordjevic, "Generalized LDPC Codes and Turbo-Product Codes with Reed-Muller Component Codes," in Proc. *8th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services, 2007 (TELSIKS 2007)*, pp. 127 - 134, 26-28 Sept. 2007. **(Invited paper.)**
- [C-211] I. B. Djordjevic, and G. T. Djordjevic, "Bit-Interleaved LDPC-Coded Modulation Suitable for Free-Space Optical Communication over the Atmospheric Turbulence Channel," in Proc. *8th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services, 2007 (TELSIKS 2007)*, pp. 234-237, 26-28 Sept. 2007.
- [C-212] I. B. Djordjevic, H. G. Batshon, L. M. Minkov, L. Xu, T. Wang, M. Cvijetic, Y. Yano, and F. Kueppers, "Experimental Demonstration of PMD Compensation by LDPC-Coded Turbo Equalization," in Proc. *33rd European Conference and Exhibition on Optical Communication (ECOC 2007)*, September 16-20, 2007 - International Congress Center (ICC), Berlin, Germany. (2 pages)
- [C-213] I. B. Djordjevic, "LDPC-Coded Modulation for Beyond 100-Gb/s Optical Transmission," in Proc. *Optical Transmission Systems and Equipment for Networking VI-SPIE Optics East Conference*, vol. 6774, pp. 677409-1-677409-14, 9 - 12 September 2007, Boston, MA, USA. **(Invited paper.)**
- [C-214] I. B. Djordjevic, "LDPC-Coded Modulation for High-Speed Optical Transmission Systems," in Proc. *IEEE LEOS Summer Topicals 2007: Ultra-high Data-Rate (>=80 Gb/s) Transmissions*, pp. 248-249, 23-25 July 2007, Portland, Oregon, USA. **(Invited paper.)**
- [C-215] I. B. Djordjevic, "Iterative Decodable Block-Codes for High-Speed Optical Transmission," in Proc. *IEEE LEOS Summer Topicals 2007: Advanced Digital Signal Processing in Next Generation Fiber Optic Transmission*, pp. 39-40, 23-25 July 2007, Portland, Oregon, USA. **(Invited paper.)**
- [C-216] H. G. Batshon, I. B. Djordjevic, L. Minkov, "Chromatic Dispersion Compensation using LDPC-Coded Turbo Equalization," in Proc. *IEEE LEOS Summer Topicals 2007: Advanced Digital Signal Processing in Next Generation Fiber Optic Transmission*, pp. 37-38, 23-25 July 2007, Portland, Oregon, USA.
- [C-217] I. B. Djordjevic, "Coded Modulation and Turbo Equalization for Beyond 100-Gb/s Optical Transmission," Rump Section: Signal Processing and High Speed at *IEEE LEOS Summer Topicals 2007: Advanced Digital Signal Processing in Next Generation Fiber Optic Transmission*, 23-25 July 2007, Portland, Oregon, USA. (Invited Panel Presentation.)
- [C-218] I. B. Djordjevic, M. Cvijetic, L. Xu, and T. Wang, "Ultra High-Speed Optical Transmission Based on LDPC-Coded Modulation and Coherent Detection for Employment in All-Optical Network Scenario," in Proc. *9th International Conference on Transparent Optical Networks (ICTON 2007)*, pp. 171 - 174, July 1-5, 2007 - Rome, Italy.
- [C-219] M. Ivkovic, I. B. Djordjevic, P. Rajkovic, and B. Vasic, "Modelling Errors in Long-Haul Optical Fiber Transmission Systems by Using Instantons and Edgeworth Expansion," in Proc. *ICC 2007*, pp. 2313 - 2317, 24-28 June 2007, Glasgow, Scotland, UK.
- [C-220] G. T. Djordjevic, I. B. Djordjevic, P. N. Ivanis, and B. V. Vasic, "Irregular LDPC Codes for Transmission over Non-Regenerative Non-Linear Satellite System in the Presence of Co-Channel Interferences," in Proc. *51st Conference on Electronics, Telecommunications, Computer, Automation, and Nuclear Engineering (ETRAN 2007)*, Herceg Novi - Igalo, Montenegro, Jun. 4-8 2007. (The Best Paper ETRAN in the field of Telecommunications Award and Telenor Award.)
- [C-221] I. B. Djordjevic, "Coding Techniques Enabling Beyond 100-Gb/s Optical Transmission," Optical Communications Panel, *2007 IEEE Communication Theory Workshop (IEEE CTW 2007)*, May 20-23, 2007, Sedona, AZ, USA. (Invited Panel Presentation.)
- [C-222] I. B. Djordjevic, M. Cvijetic, L. Xu, and T. Wang, "100 Gb/s Transmission Using Bit-Interleaved LDPC-Coded Modulation," in Proc. *2007 Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference (OFC/NFOEC 2007)*, Paper no. OWE6, Anaheim, CA, March 25-29, 2007. (3 pages)
- [C-223] L. Pu, M.W. Marcellin, I. Djordjevic, B. Vasic, and A. Bilgin, "Joint Source-Channel Rate Allocation in Parallel Channels," in Proc. *SPIE VCIP 2007*, Vol. 6508, pp. 65081A-1 - 65081A-8, San Jose, CA, Jan. 28 - Feb. 1, 2007.
- [C-224] I. B. Djordjevic, H. G. Batshon, M. Cvijetic, L. Xu, and T. Wang, "PMD Compensation Using LDPC Coding Based Turbo Equalization," in Proc. *CLEO 2007*, Paper No. CMQ3, May 2007. (2 pages)

- [C-225] I. B. Djordjevic, B. Vasic, and M. A. Neifeld, "Power Efficient LDPC-Coded Modulation for Free-Space Optical Communication over the Atmospheric Turbulence Channel," in Proc. *2007 Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference (OFC/NFOEC 2007)*, Paper no. JThA46, Anaheim, CA, March 25-29, 2007. (3 pages)
- [C-226] M. Ivkovic, I. B. Djordjevic, and B. Vasic, "A Soft Decision Coding Scheme for Long-Haul Optical Transmission Systems Based on Instanton Approach," in Proc. *IEEE Global Telecommunications Conference (Globecom '06)*, Paper no. CThp1-1, San Francisco, CA, Nov. 27-Dec. 1 2006. (5 pages)
- [C-227] G. T. Djordjevic, I. B. Djordjevic, P. Ivanis, and B. Vasic, "Performance Analysis of LDPC-Coded PSK Signal Transmission over Non-Linear Satellite Channel in the Presence of Multiple Interferences," in Proc. *2006 IEEE Global Telecommunications Conference (Globecom '06)*, Paper No. SAT02-3, San Francisco, CA, Nov. 27-Dec. 1 2006. (6 pages)
- [C-228] I. B. Djordjevic, and B. Vasic, "Spectrally Efficient Noncoherent Optical Communications," in Proc. *2005 Frontiers in Optics/Laser Science conferences* in Tucson, Arizona, October 16-20, 2005, Paper no. FThJ4. (2 pages)
- [C-229] I. B. Djordjevic, and B. Vasic, "Nonbinary LDPC Codes for Optical Communications," in Proc. *2005 Frontiers in Optics/Laser Science conferences* in Tucson, Arizona, October 16-20, 2005, Paper no. FThJ6. (2 pages)
- [C-230] M. Ivkovic, I. B. Djordjevic, and B. Vasic, "Hard Decision Error Correcting Scheme Based On LDPC Codes for Long-Haul Optical Transmission," in Proc. *Optical Transmission Systems and Equipment for Networking V-SPIE Optics East Conference*, vol. 6388, pp. 63880F-1 – 63880F-7, Boston, Massachusetts, 1-4 October 2006.
- [C-231] I. B. Djordjevic, and B. Vasic, "Suppression of Intrachannel Nonlinear Effects in High-Speed WDM Systems," in Proc. *Optical Transmission Systems and Equipment for Networking V-SPIE Optics East Conference*, vol. 6388, pp. 638803-1 – 638803-15, Boston, Massachusetts, 1-4 October 2006. **(Invited paper.)**
- [C-232] H. G. Batshon, I. B. Djordjevic, and B. Vasic, "An Efficient Modulation Technique for Suppressing Intrachannel FWM in 40Gb/S Optical Transmission Systems," in Proc. *Optical Transmission Systems and Equipment for Networking V-SPIE Optics East Conference*, vol. 6388, pp. 63880H-1 – 63880H-9, Boston, Massachusetts, 1-4 October 2006.
- [C-233] I. B. Djordjevic, and B. Vasic, "Forward Error Correction for Advanced Optical Transmission," in Proc. *Optical Transmission Systems and Equipment for Networking V-SPIE Optics East Conference*, vol. 6388, pp. 63880E-1 – 63880E-15, Boston, Massachusetts, 1-4 October 2006. (Invited Tutorial Paper.)
- [C-234] I. B. Djordjevic, and B. Vasic, "Adaptive BCJR Equalizer in Suppression of Intrachannel Nonlinearities," in Proc. *32nd European Conference on Optical Communication (ECOC 2006)*, Paper No. We1.5.5, Cannes, France, 24-28 Sept. 2006. (2 pages)
- [C-235] N. Alic, I. B. Djordjevic, B. Vasic, G. C. Papen, and S. Radic, "Experimental Determination of Achievable Information Rates for Single-Channel NRZ IM/DD High-Speed Optical Transmission," in Proc. *32nd European Conference on Optical Communication (ECOC 2006)*, Paper No. Tu1.5.6, Cannes, France, 24-28 Sept. 2006. (2 pages)
- [C-236] M. Ivkovic, I. B. Djordjevic, and B. Vasic, "Calculation of Achievable Information Rates of Long-Haul Optical Transmission Systems using Instanton Approach," in Proc. *2006 IEEE International Symposium on Information Theory (ISIT 2006)*, Paper no. IT06-1983, Seattle, Washington, July 9-14, 2006. (5 pages)
- [C-237] I. B. Djordjevic, and B. Vasic, "Multilevel Coding for Spectrally Efficient Noncoherent Optical Transmission," in Proc. *2006 IEEE International Conference on Communications (ICC 2006)*, vol. 3, pp. 1225 – 1230, Istanbul, Turkey, 11 - 15 June 2006.
- [C-238] S. Ramasubramanian, I. B. Djordjevic, and B. Vasic, "Finite Shift-Invariant Optical Orthogonal Codes for Quasi-Synchronous Communication Systems," in Proc. *2006 IEEE International Conference on Communications (ICC 2006)*, vol. 6, pp. 2847 - 2852, Istanbul, Turkey, 11 - 15 June 2006.
- [C-239] I. B. Djordjevic, B. Vasic, and M. A. Neifeld, "LDPC Coded Orthogonal Frequency Division Multiplexing over the Atmospheric Turbulence Channel," in Proc. *2006 Conference on Lasers and Electro-Optics and the Quantum Electronics and Laser Science Conference (CLEO/QELS 2006)*, Paper No. CMDD5, Long Beach, CA, May 21-26, 2006. **(Invited paper.)**
- [C-240] B. Vasic, and I. B. Djordjevic, "Low-Density Parity-Check Codes for 40 Gb/s Transmission," in Proc. *Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference (OFC/NFOEC 2006)*, Paper No. OThD2, Anaheim, CA, March 5-10, 2006. **(Invited paper.)** (3 pages)
- [C-241] B. Vasic, I. B. Djordjevic, and V. S. Rao, "Suppression of Intrachannel Nonlinearities Using BCJR Algorithm and Iterative Decoding," in Proc. *2006 Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference (OFC/NFOEC 2006)*, Paper No. OTuK5, Anaheim, CA, March 5-10, 2006. (3 pages)
- [C-242] B. Vasic, I. B. Djordjevic, "Advanced Coding Techniques: Theory and Practice," in Proc. *Optical Transmission Systems and Equipment for WDM Networking IV-SPIE Optics East Symposium*, vol. 6012, pp. 60120J-1-60120J-12, 23-26 October 2005, Boston, Massachusetts, USA. **(Invited paper.)**
- [C-243] J. M. Castro, I. B. Djordjevic, and D. F. Geraghty, "Novel Optical Encryption Scheme Using Super-Structured Bragg Gratings," in Proc. *2005 Frontiers in Optics/Laser Science conferences* in Tucson, Arizona, October 16-20, 2005, Paper no. FThJ5. (2 pages)
- [C-244] M. Matus, M. Kolesik, J. Moloney, I. Djordjevic, and D. Geraghty, "All-Optical Message Encoding, Double Bit Error Detection and Single Bit Error Correction," in Proc. *2005 Frontiers in Optics/Laser Science Conferences* in Tucson, Arizona, October 16-20, 2005, Paper no. JTuC35. (2 pages)

- [C-245] J. A. Anguita, M. A. Neifeld, I. B. Djordjevic, and B. V. Vasic, "Information Capacity and Error-Correction Codes for the Free-Space Optical Atmospheric Communication Channel," in Proc. *2005 Frontiers in Optics/Laser Science conferences* in Tucson, Arizona, October 16-20, 2005, Paper no. FTuT4. (2 pages)
- [C-246] M. Matus, M. Kolesik, J. V. Moloney, I. B. Djordjevic, and D. Geraghty, "All-Optical Message Encoding, Error Detection and Error Correction," in Proc. *5th International Conference on Numerical Simulation of Optoelectronic Devices 2005 (NUSOD '05)*, pp. 121-122, 19-22 Sept. 2005.
- [C-247] A. Patil, I. B. Djordjevic, and D. F. Geraghty, "Performance Assessment of Optical CDMA Systems Based on Wavelength-Time Codes from Balanced Incomplete Block Designs," in Proc. *7th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIKS 2005*, September 28–30, 2005, Niš, Serbia and Montenegro, pp. 295-298.
- [C-248] G. T. Djordjevic, P. N. Ivanis, and I. B. Djordjevic, "Influence of Crosspolarisation on Convolutional Encoded BPSK Signal Transmission over Two-Link Soft-Limited Channel," in Proc. *7th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIKS 2005*, September 28–30, 2005, Niš, Serbia and Montenegro, pp. 411-414.
- [C-249] I. B. Djordjevic, and B. Vasic, "Combined Constrained and Error Control Coding in Suppression of Intrachannel Fiber Nonlinearities," in Proc. *31st European Conference on Optical Communication (ECOC 2005)* in Glasgow, UK, 25th-29th September 2005, paper no. Tu 1.2.4, pp. 127-128.
- [C-250] I. B. Djordjevic, and B. Vasic, "Constrained Codes for Suppression of Intrachannel Nonlinear Effects in High-speed Optical Transmission," in Proc. *7th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIKS 2005*, pp. 299-302, September 28–30, 2005, Niš, Serbia and Montenegro.
- [C-251] J. A. Anguita, I. B. Djordjevic, M. A. Neifeld, and B. V. Vasic, "High-Rate Error Correction Codes for the Optical Atmospheric Channel," in Proc. *Free-Space Laser Communications V - SPIE Symposium on Optics & Photonics*, 31 July through 4 August 2005 at the San Diego Convention Center in San Diego, California, USA.
- [C-252] I. B. Djordjevic, M. Ivkovic, B. Vasic, and I. Gabitov, "Achievable Information Rates for High-Speed Long-Haul Optical Transmission," in Proc. *CLEO/QELS 2005*, Paper JThE51, May 22-27, 2005, Baltimore, MD, USA. (3 pages)
- [C-253] I. B. Djordjevic, O. Milenkovic, and B. Vasic, "Generalized Low-Density Parity-Check Codes for Long-Haul High-Speed Optical Communications," in Proc. *Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference on CD-ROM (Optical Society of America, Washington, DC, 2005)*, Paper no. OThW6. (3 pages)
- [C-254] I. B. Djordjevic, and B. Vasic, "A Ternary Modulation Code for Suppression of Intrachannel Nonlinear Effects in High-Speed Optical Transmission," in *Optical Fiber Communication Conference and Exposition and The National Fiber Optic Engineers Conference on CD-ROM (Optical Society of America, Washington, DC, 2005)*, Paper no. OThW2. (3 pages)
- [C-255] I. B. Djordjevic, V. S. Rao, and B. V. Vasic, "Suppression of Intrachannel Nonlinear Effects in High-Speed Optical Transmission Using Modulation Codes", in Proc. *30th European Conference on Optical Communication (ECOC 2004)*, Stockholm, Sweden, Sept. 5-9, 2004.
- [C-256] I. B. Djordjevic, and B. Vasic, "Approaching Shannon's Capacity Limits of Fiber Optics Communications Channels Using Short LDPC Codes," in Proc. *CLEO 2004*, Paper no. CWA7. (2 pages)
- [C-257] V. S. Rao, I. B. Djordjevic, and B. Vasic, "Application of Modulation Codes to Ghost Pulse Suppression," in Proc. *2004 IEEE/LEOS Workshop on Advanced Modulation Formats*, pp. 29-30, San Francisco, CA, July 1-2, 2004.
- [C-258] I. B. Djordjevic, B. Vasic, and S. Sankaranarayanan, "Regular and Irregular Low-Density Parity-Check Codes for Ultra-Long Haul High-Speed Optical Communications: Construction and Performance Analysis," in Proc. *OFC 2004*, Paper no. WM4. (3 pages)
- [C-259] S.-C. Lee, R. Varrazza, I. B. Djordjevic, and S. Yu, "Optical Label Detection and Packet Switching Using a 4x4 Optical Crosspoint Switch Matrix," in Proc. *OFC 2004*, Paper No. MF58. (3 pages)
- [C-260] I. B. Djordjevic, B. Vasic, S. Sankaranarayanan, and J. Rorison, "Finite Geometry Iteratively Decodable Block Codes for WDM High-Speed Long-Haul Transmission," *87th OSA Annual Meeting*, Oct. 2003. (2 pages)
- [C-261] I. B. Djordjevic, and B. Vasic, "Affine Geometry LDPC Codes in Ultra-Long Haul Optical Transmission Systems," in Proc. *6th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service (TELSIKS 2003)*, Oct. 1-3, 2003, vol. 1, pp. 75 - 78.
- [C-262] I. B. Djordjevic, B. Vasic, and J. Rorison, "Multi-Weight Unipolar Codes for Multimedia Optical CDMA Applications Based on Pairwise Balanced Designs," in Proc. *6th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service (TELSIKS 2003)*, Oct. 1-3, 2003, vol. 2, pp. 425 - 428.
- [C-263] B. Vasic, and I. B. Djordjevic, "Quasi-Cyclic Low-Density Parity Check Codes," in Proc. *6th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service (TELSIKS 2003)*, Oct. 1-3, 2003, vol. 2, pp. 417 - 420.
- [C-264] I. B. Djordjevic, B. Vasic, and S. Sankaranarayan, "Projective Plane Iteratively Decodable Codes for WDM High-Speed Long-Haul Transmission," in Proc. *European Conference on Optical Communication (ECOC 2003)*, Paper no. Tu1.6.5. (2 pages)
- [C-265] R. Varrazza, I. B. Djordjevic, M. Hill, and S. Yu, "A 4x4 Optical Crosspoint Packet Switch Matrix with Minimised Path-Dependent Optical Gain," in Proc. *European Conference on Optical Communication (ECOC 2003)*, Paper No. We1.5.2. (2 pages)
- [C-266] I. B. Djordjevic, R. Varrazza, M. Hill, and S. Yu, "Packet Switching Mode BER Performance at 10Gb/s across a 4x4 Optical Crosspoint Switch Matrix," in Proc. *European Conference on Optical Communication (ECOC 2003)*, Paper No. We4.P.158. (2 pages)

- [C-267] I. B. Djordjevic, J. Rorison, and S. Yu, "Novel Duobinary RZ Modulation Format for High-Speed Transmission," in Proc. *Conference on Lasers and Electro-Optics 2003 (CLEO '03)*, June 1-6, 2003, pp. 1669 - 1670.
- [C-268] B. Vasic, and I. B. Djordjevic, "A Forward Error Correction Scheme for Ultra Long Haul Optical Transmission Systems Based on Low-Density Parity-Check Codes," in Proc. *IEEE International Conference on Communications (ICC '03)*, 11-15 May 2003, vol. 2, pp. 1489 - 1493.
- [C-269] I. B. Djordjevic, B. Vasic, and R. Kostuk, "Structured LDPC Codes for High-Speed Long-Haul Optical Communications," in Proc. *Optical Fiber Communications Conference (OFC 2003)*, 23-28 March 2003, vol. 1, pp. 393 - 394.
- [C-270] B. Vasic, and I. B. Djordjevic, "LDPC Codes for Long Haul Optical Communications," in Proc. *European Conference on Optical Communication (ECOC 2002)*, Paper no. P3.27. (2 pages)
- [C-271] I. B. Djordjevic, "Transmission Limitations of WDM Transmissions Systems with Dispersion Compensated Links in the Presence Of Fiber Nonlinearities," in Proc. *5th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service (TELSIKS 2001)*, 19-21 Sept. 2001, vol. 2, pp. 496 - 499.
- [C-272] I. B. Djordjevic, "Homodyne PSK Receivers with A Costas Loop for High-Speed Long-Haul Communications," in Proc. *5th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Service (TELSIKS 2001)*, 19-21 Sept. 2001, vol. 2, pp. 769 - 772.

UNITED STATES PATENTS

- [P-1] Patent No. 9,742,526, "Optimal signal constellation design for ultra-high-speed optical transport in the presence of phase noise," Issued: August 22, 2017 (Filed: October 2, 2014).
- [P-2] Patent No. 9,735,921, "Ultra-high speed optical transport employing LDPC-coded modulation with non-uniform signaling," Issued: August 15, 2017 (Filed: April 25, 2016).
- [P-3] Patent No. 9,722,634, "Multiple component codes based generalized low-density parity-check codes for high-speed optical transport," Issued: August 1, 2017 (Filed: October 14, 2014).
- [P-4] Patent No. 9,485,029, "Multinary signaling based coded modulation for ultra-high-speed optical transport," Issued: November 1, 2016 (Filed: June 23, 2015).
- [P-5] Patent No. 9,479,285, "Non-binary LDPC coded mode-multiplexed four-dimensional signaling based on orthogonal frequency division multiplexing," Issued: October 25, 2016 (Filed: October 14, 2014).
- [P-6] Patent No. 9,367,387, "Rate adaptive irregular QC-LDPC codes from pairwise balanced designs for ultra-high-speed optical transports," Issued: June 14, 2016 (Filed: January 24, 2014).
- [P-7] Patent No. 9,203,555, "Optimum signal constellation design and mapping for few-mode fiber based LDPC-coded CO-OFDM," Issued: December 1, 2015 (Filed: February 13, 2014).
- [P-8] Patent No. 9,203,544, "Optical communication system, device and method employing advanced coding and high modulation order," Issued: December 1, 2015 (Filed: December 3, 2010).
- [P-9] Patent No. 9,197,249, "Adaptive LDPC-coded multidimensional spatial-MIMO multiband generalized OFDM," Issued: November 24, 2015 (Filed: June 6, 2013).
- [P-10] Patent No. 9,184,873, "Ultra-high-speed optical transport based on adaptive LDPC-coded multidimensional spatial-spectral scheme and orthogonal prolate spheroidal wave functions," Issued: November 10, 2015 (Filed: March 18, 2014).
- [P-11] Patent No. 9,166,728, "Nonbinary LDPC coded modulation without bandwidth expansion for high-speed optical transmission," Issued: October 20, 2015 (Filed: October 5, 2012).
- [P-12] Patent No. 9,094,125, "Multidimensional coded-modulation for high-speed optical transport over few-mode fibers," Issued: July 28, 2015 (Filed: May 24, 2013).
- [P-13] Patent No. 9,071,383, "Modified orthogonal polynomials based hybrid coded-modulation for multi-Tb/second optical transport," Issued: June 30, 2015 (Filed: February 4, 2014).
- [P-14] Patent No. 9,036,992, "LDPC-coded modulation for ultra-high-speed optical transport in the presence of phase noise," Issued: May 19, 2015 (Filed: May 28, 2013).
- [P-15] Patent No. 8,977,121, "Spatial domain based multi dimensional coded modulation for multi Tb per second serial optical transport networks," Issued: March 10, 2015 (Filed: October 10, 2011).
- [P-16] Patent No. 8,891,964, "Dynamic multidimensional optical networking based on spatial and spectral processing," Issued: November 18, 2014 (Filed: December 12, 2012).

- [P-17] Patent No. 8,874,987, "Optimum signal constellation design for high-speed optical transmission," Issued: October 28, 2014 (Filed: October 5, 2012).
- [P-18] Patent No. 8,768,175, "Four-dimensional optical multiband-OFDM for beyond 1.4Tb/s serial optical transmission," Issued: July 1, 2014 (Filed: October 1, 2011).
- [P-19] Patent No. 8,761,608, "Coded multidimensional pulse amplitude modulation for ultra-high-speed optical transport," Issued: June 24, 2014 (Filed: October 1, 2011).
- [P-20] Patent No. 8,743,984, "Multidimensional hybrid modulations for ultra-high-speed optical transport," Issued: June 3, 2014 (Filed: April 6, 2012).
- [P-21] Patent No. 8,719,656, "Four-dimensional non-binary LDPC-coded modulation schemes for ultra high-speed optical fiber communication," Issued: May 6, 2014 (Filed: April 6, 2012).
- [P-22] Patent No. 8,699,625, "Generalized OFDM (GOFDM) for ultra-high-speed serial optical transport networks," Issued: April 15, 2014 (Filed: October 10, 2011).
- [P-23] Patent No. 8,660,205, "Energy efficient constellation method and system," Issued: February 25, 2014 (Filed: June 3, 2012).
- [P-24] Patent No. 8,595,585, "Reverse concatenated encoding and decoding," Issued: November 26, 2013 (Filed: May 26, 2011).
- [P-25] Patent No. 8,589,755, "Reduced-complexity LDPC decoding," Issued: November 19, 2013 (Filed: May 24, 2011).
- [P-26] Patent No. 8,588,623, "Coded polarization-multiplexed iterative polar modulation," Issued: November 19, 2013 (Filed: August 20, 2010).
- [P-27] Patent No. 8,538,278, "Superimposed training and digital filtering coherent optical receivers," Issued: September 17, 2013 (Filed: February 9, 2010).
- [P-28] Patent No. 8,386,879, "GLDPC encoding with Reed-Muller component codes for optical communications," Issued: February 26, 2013 (Filed: August 11, 2008).
- [P-29] Patent No. 8,385,439, "Polarization mode dispersion compensation in multilevel coded-modulation schemes using BLAST algorithm and iterative polarization cancellation," Issued: February 26, 2013 (Filed: February 25, 2009).
- [P-30] Patent No. 8,381,065, "Modified progressive edge-growth LDPC codes for ultra-high-speed serial optical transport," Issued: February 19, 2013 (Filed: October 1, 2010).
- [P-31] Patent No. 8,234,549, "Simultaneous PMD compensation and chromatic dispersion compensation using LDPC coded OFDM," Issued: July 31, 2012 (Filed: March 6, 2008).
- [P-32] Patent No. 8,234,538, "Ultra high-speed optical transmission based on LDPC-coded modulation and coherent detection for all-optical network," Issued: July 31, 2012 (Filed: November 16, 2007).
- [P-33] Patent No. 8,219,874, "Multi-dimensional LDPC coded modulation for high-speed optical transmission systems," Issued: July 10, 2012 (Filed: August 4, 2009).
- [P-34] Patent No. 8,185,796, "Mitigation of fiber nonlinearities in multilevel coded-modulation schemes," Issued: May 22, 2012 (Filed: February 25, 2009).
- [P-35] Patent No. 8,184,993, "Polarization mode dispersion (PMD) compensation in polarization multiplexed coded orthogonal frequency division multiplexing (OFDM) systems," Issued: May 22, 2012 (Filed: February 25, 2009).
- [P-36] Patent No. 8,181,091, "High speed LDPC decoding," Issued: May 15, 2012 (Filed: Oct. 2, 2008).
- [P-37] Patent No. 8,176,381, "Multidimensional turbo product codes and generalized low-density parity-check codes with component Reed-Solomon codes for optical transmission," Issued: May 8, 2012 (Filed: May 8, 2008).
- [P-38] Patent No. 8,175,466, "Methods and systems for polarization multiplexed multilevel modulation for optical communication," Issued: May 8, 2012 (Filed: Mar. 10, 2009).
- [P-39] Patent No. 8,140,934, "LDPC-coded multilevel modulation scheme," Issued: March 20, 2012 (Filed: September 30, 2008).
- [P-40] Patent No. 8,099,645, "LDPC codes and stochastic decoding for optical transmission," Issued: January 17, 2012 (Filed: August 21, 2008).
- [P-41] Patent No. 8,006,163, "Polarization mode dispersion compensation using BCJR equalizer and iterative LDPC decoding," Issued: August 23, 2011 (Filed: December 5, 2007).

- [P-42] Patent No. 7,992,070, "Bit-interleaved LDPC-coded modulation for high-speed optical transmission," Issued: August 2, 2011 (Filed: December 5, 2007).
- [P-43] Patent No. 7,991,070, "Wavelength transmission system and method using 3-dimensional LDPC-coded modulation," Issued: August 2, 2011 (Filed: March 18, 2008).